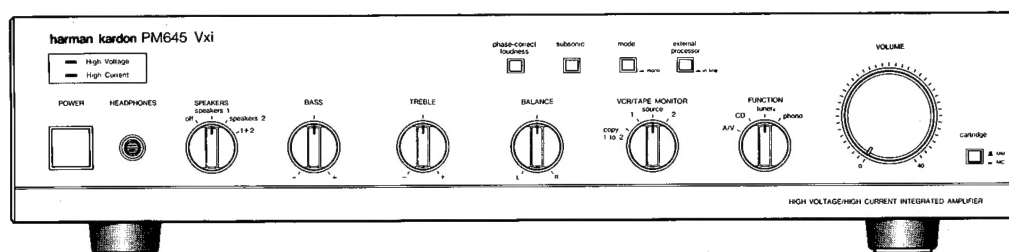


The Harman Kardon Model PM645 Vxi

STEREO INTEGRATED AMPLIFIER

Manual 120A

Technical Manual



The following marks found in the parts list of this manual identify the models as follows.

- **UA** : North America area model
- **BK** : North America area model Black version
- **G** : General model
- **GB** : General model Black version
- **N** : Japan model

harman/kardon

240 Crossways Park West, Woodbury, N.Y. 11797
1112-3152120A4 P-088710 1500 Printed in Japan

PM645 Vxi

SPECIFICATIONS

	Nominal	Limit
RMS Output Power		
8Ω, 1kHz THD 0.1%	70.8W	≥ 60W
4Ω, 1kHz THD 0.3%	72.2W	≥ 60W
High Instantaneous Current Capability (HCC)	40A	≥ 35A
Half Power Bandwidth	10Hz	~ 100kHz
Frequency Response at -3dB	0.62Hz	~ 163kHz
Input Sensitivity		
Tuner	135mV	± 25mV
Phono(MM)	2.2mV	± 0.2mV *
Phono(MC)	120μV	± 20μV *
Signal to Noise Ratio		
Tuner	80.7dB	≥ 75dB
Phono(MM)	79.5dB	≥ 73dB
Phono(MC)	76.5dB	≥ 74dB
Channel Separation at 10kHz		
Tuner	66dB	≥ 50dB
Phono(MM)	58dB	≥ 45dB
Phono(MC)	50dB	≥ 43dB
IM Distortion Ratio	0.048%	≤ 0.1%
Damping Factor at 1kHz	60.3	≥ 50
Tone Control Characteristics		
Bass Turnover Frequency (200Hz/400Hz)		
Bass at 50Hz/100Hz		
Boost	10dB	± 2dB
Cut	10dB	± 2dB
Treble Turnover Frequency (2kHz/6kHz)		
Treble at 10kHz/30kHz		
Boost	10dB	± 2dB
Cut	10dB	± 2dB

	Nominal	Limit
Filters		
Subsonic	15Hz,	- 3dB ± 1dB/Octave
High Cut	6kHz,	- 3dB ± 1dB/Octave
DC Output Voltage		
L channel	0mV	± 60mV
R channel	0mV	± 60mV
RIAA Equalization at Tape Out (20Hz/20kHz) (No load)	0.18dB + 1.0dB/0.18dB	- 0.2dB
Phono Over Load (No load)		
Phono (MM)	108mV	≥ 95mV
Phono (MC)	5.6mV	≥ 5mV
Dimensions (W × H × D)	17-1/2" × 4-1/16" × 13-7/8"	(443 × 103 × 351mm)
Weight	14 lbs.	5oz. (6.5kg)
Power Supplies		
North America area model	AC 120V,	60Hz
General model	AC 220/240V,	50/60Hz
Japan model	AC 100V,	50/60Hz
Power Consumption		
North America area model	248W	(300VA)
General model	176W	
Japan model	340W	

* Input Sensitivity for General model are 2.3mV ± 0.2mV (MM) and 145μV ± 20μV (MC).

This specification is the target of servicing. But, there is a case that the specification is not applicable to the measurement condition and instrument.

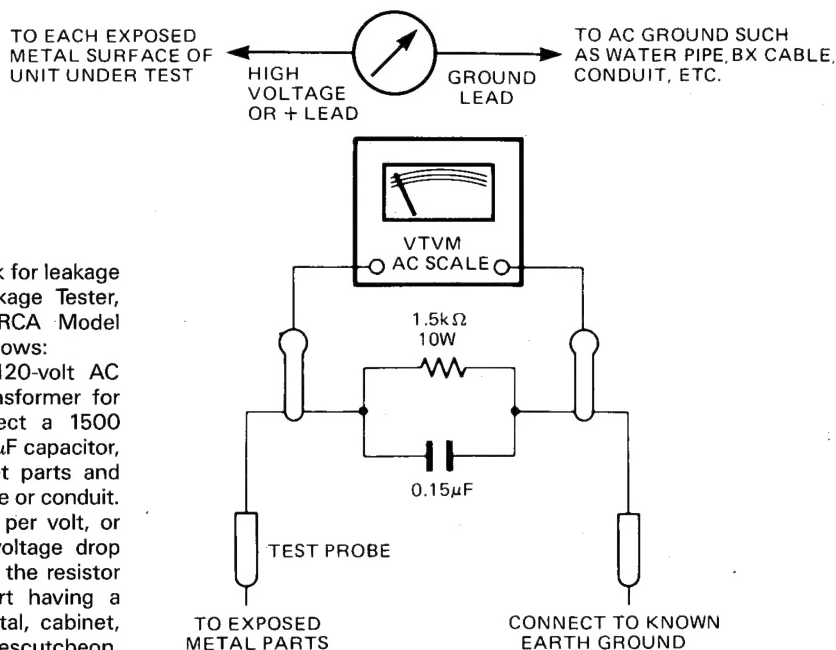
Specifications and components subject to change without notice. Overall performance will be maintained or improved.

LEAKAGE TEST (FOR SERVICE ENGINEERS IN THE U.S.A.)

Before returning the unit to the user, perform the following safety checks:

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the unit.
2. Be sure that any protective devices such as nonmetallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators, etc. which were removed for servicing are properly reinstalled.
3. Be sure that no shock hazard exists; check for leakage current using Simpson Model 229 Leakage Tester, standard equipment item No. 21641, RCA Model WT540A or use alternate method as follows: Plug the power cord directly into a 120-volt AC receptacle (do not use an Isolation Transformer for this test). Using two clip leads, connect a 1500 Ohm, 10-watt resistor paralleled by a 0.15 μF capacitor, in series with all exposed metal cabinet parts and a known earth ground, such as a water pipe or conduit. Use a VTVM or VOM with 1000 Ohms per volt, or higher sensitivity to measure the AC voltage drop across the resistor. (See Diagram.) Move the resistor connection to each exposed metal part having a return path to the chassis (antenna, metal, cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor. (This test should be performed with the power switch in both the On and Off positions.) A reading of 0.35 volt RMS or more is excessive and indicates a potential shock hazard which must be corrected before returning the unit to the owner.

SIMPSON MODEL 229 ETC. FOR LEAKAGE TEST



DISASSEMBLY PROCEDURES (REFER TO PAGES 5 AND 16)

① CABINET TOP (131) REMOVAL

Remove 6 screws (A) and then remove the Cabinet Top (131).

② FRONT PANEL ASS'Y (AA) REMOVAL

1. Remove the Cabinet Top (131), referring to the previous step ①.
2. Remove 5 screw (B) and then remove the Front Panel Ass'y (AA).

③ BASS CONTROL P. C. BOARD (PCB-9) REMOVAL

1. Remove the Front Panel Ass'y (AA), referring to the previous step ②.
2. Open the lid of connector (CN502) on the Main P. C. Board (PCB-1) and then disconnect the lead wires.
3. Open the lid of connector (CN501) on the Function P. C. Board (PCB-8) and then disconnect the lead wires.
4. Open the lid of connectors (CN503, CN504 and CN505) on the Bass Control P. C. Board (PCB-9) and then disconnect the lead wires.
5. Remove 2 screws (C) and then remove the Bass Control P. C. Board (PCB-9).
If necessary, unsolder the lead wire connected to the PCB-9.

④ MAIN P. C. BOARD (PCB-1) REMOVAL

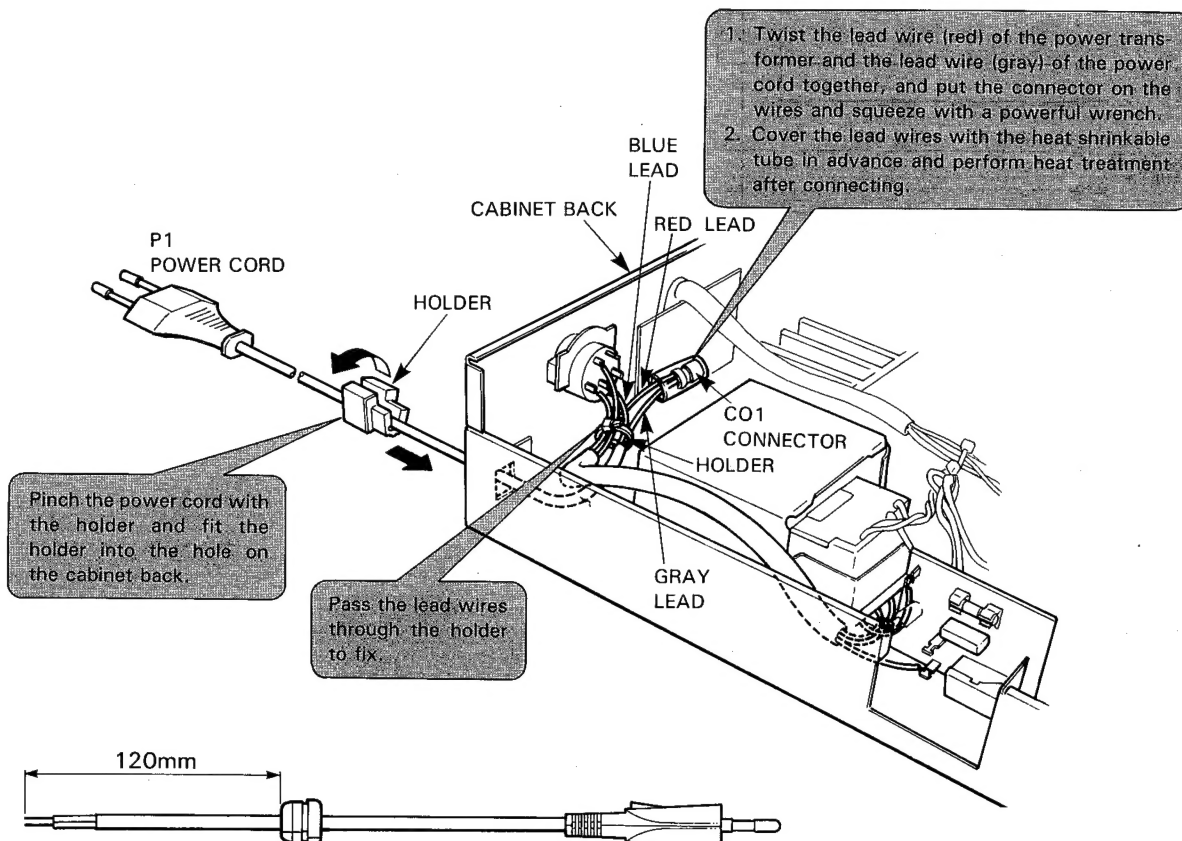
1. Remove the Bass Control P. C. Board (PCB-9), referring to the previous step ③.
2. Open the lid of connectors (CN601 and CN803) on the Main P. C. Board (PCB-1) and then disconnect the lead wires.
3. Open the lid of connector (CN109) on the Function P. C. Board (PCB-8) and then disconnect the lead wires.
4. Remove a screw (D) and then remove the Q807 P. C. Board (PCB-12).
5. Remove 4 screws (E) and 3 hexagon nuts (F) and then remove the Main P. C. Board (PCB-1).
If necessary, unsolder the lead wires connected to the PCB-1.

⑤ FUNCTION P. C. BOARD (PCB-8) REMOVAL

1. Remove the Main P. C. Board (PCB-1), referring to the previous step ④.
2. Open the lid of connector (CN801) on the Function P. C. Board (PCB-8) and then disconnect the lead wires.
3. Remove 3 screws (G) and then remove the Video P. C. Board (PCB-10).
4. Pull out the Shafts (215 and 216).
5. Remove 11 screws (H) and then remove the Cabinet Back Ass'y (AB) with the Speakers P. C. Board (PCB-2).
6. Remove 2 screws (I) and 2 hexagon nuts (J) and then remove the Function P. C. Board (PCB-8) with the Equalizer P. C. Board (PCB-11).

POWER CORD REPLACEMENT (FOR SERVICE ENGINEERS OTHER THAN NOTRH AMERICA)

In order to prevent fire or shock hazard when replacing the power cord, follow the procedure below to replace the parts with the standard supply parts.



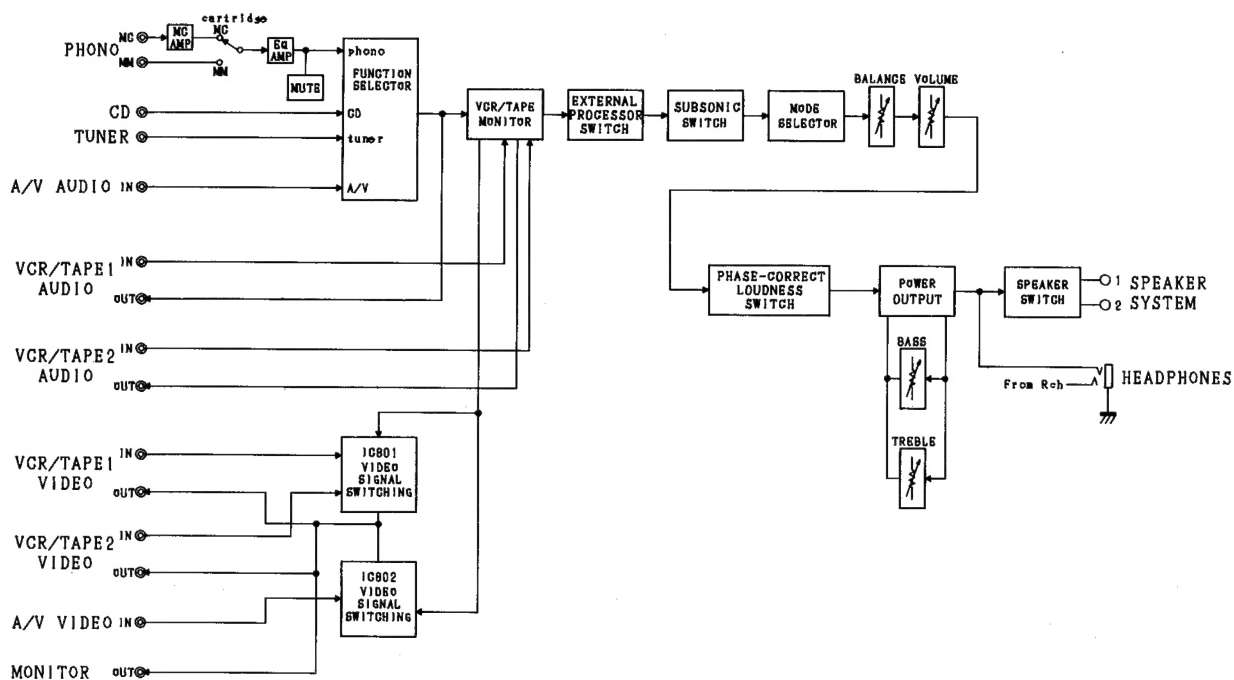
ALIGNMENT PROCEDURES (REFER TO PAGES 7, 8 AND 15)

- Conditions:**
- Set the Volume control to minimum.
 - Set the Speaker selector to "1 + 2" position.
 - Set the Speaker Operating Mode switch to "8Ω" position.
 - Make the adjustment at a room temperature of 77°F (25°C).
 - After the Power switch is pushed on, wait for 30 minutes before measuring to be sure of the most stable operation.

■ IDLING CURRENT ADJUSTMENT

Step	Connection Equipments	Adjustment	For
1	Connect the Digital Volt Meter to TP1 and TP2.	VR401 (L ch)	40mV \pm 2mV
2	Connect the Digital Volt Meter to TP3 and TP4.	VR402 (R ch)	40mV \pm 2mV

BLOCK DIAGRAM

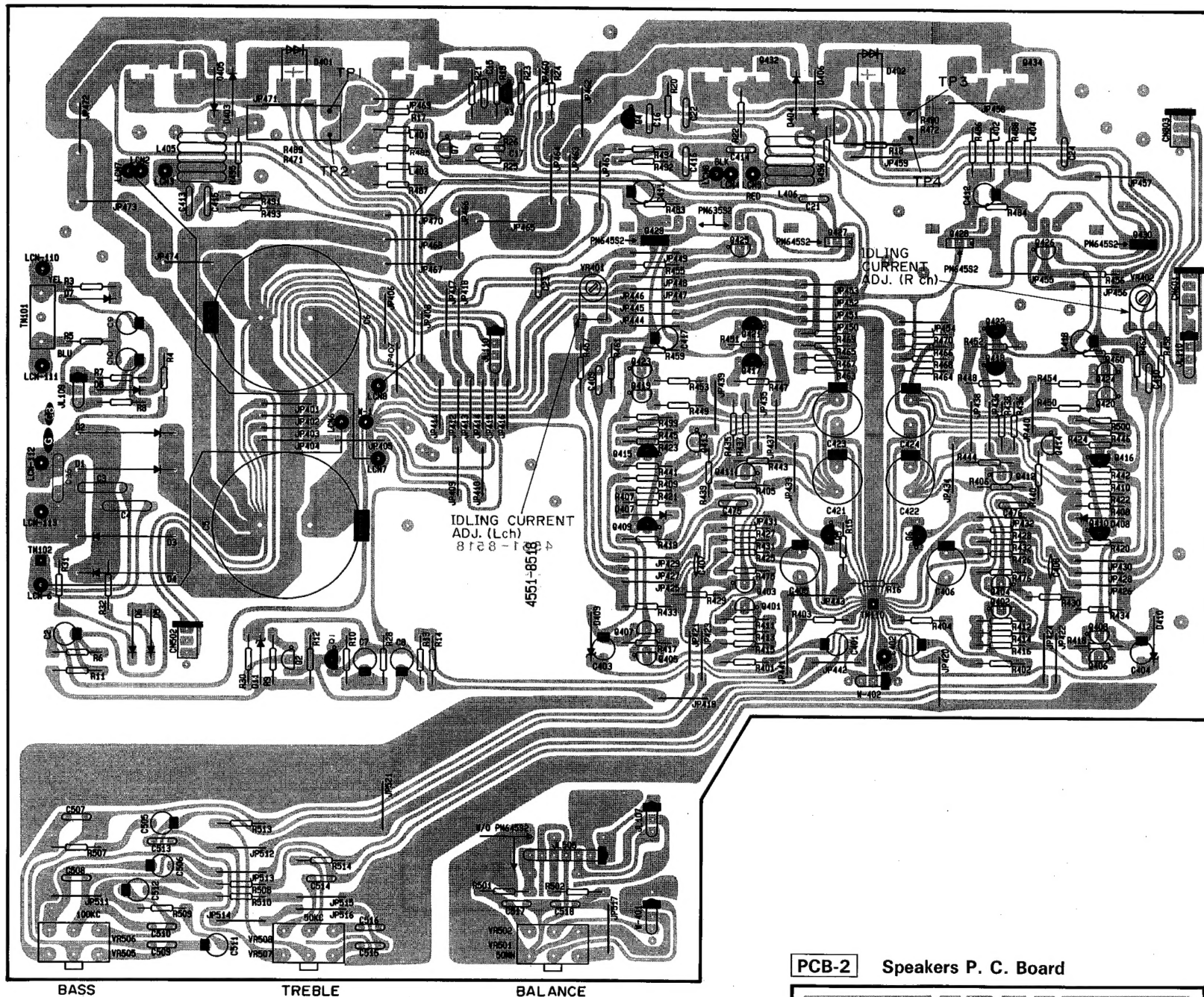


PARTS LIST

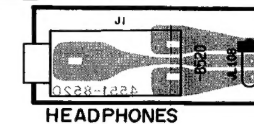
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
AA	A443-PM645S2A	FRONT PANEL ASS'Y UA G	236	2347-R0130062	SCREW, BND T+
AAA	A443-PM645S2B	FRONT PANEL ASS'Y BK GB N	237	2347-R0130084	SCREW, BND T+
AB	A424-PM645S2A	CABINET BACK ASS'Y	239	2347-R0130102	SCREW, BND T+
AC	A424-PM645S2B	CABINET BOTTOM ASS'Y	241	2347-R0140064	SCREW, BND T+
AD	A632-PM645S2A	ROTARY KNOB FUNCTION SWITCH ASS'Y UA G	242	2347-R0140082	SCREW, BND T+
ADA	A632-PM645S2B	ROTARY KNOB FUNCTION SWITCH ASS'Y BK GB N	245	2557-301029	SCREW, B SPW+
AE	A662-PM645S2A	PUSH BUTTON ASS'Y UA G	ΔPI	4161-71151	CORD W/PLUG UA BK
AEA	A662-PM645S2B	PUSH BUTTON ASS'Y BK GB N	ΔPIB	4161-7256	CORD W/PLUG G GB
023B	2132-7116	SPACER G GB	ΔPID	4161-71133	CORD W/PLUG N
024B	2327-R0130124	SCREW, BND+ G GB	ΔTI	5584-S11	XFORMER, POWER UA BK
025B	2440-7017	NUT, SPE G GB N	ΔTIB	5584-S12	XFORMER, POWER G GB
053B	4150-8	TUBING, SPE G GB	ΔTID	5584-S13	XFORMER, POWER N
064B	2132-7120	SPACER G GB	ΔSOI	4474-156	SOCKET, AC OUTLET
065B	2347-R0130162	SCREW, BND T+ G GB	LUG1B	4211-4	LUG G GB
116	1756-05910	LABEL, FUSE CAUTION	LUG2	4211-4	LUG
131	1414-04901	CABINET TOP	ΔSW2	4421-0227230	SWITCH, SLIDE
133	1424-23201	CABINET BOTTOM	ΔSW101	4411-102729	SWITCH, ROTARY G GB
134	1424-23004	CABINET BACK UA BK	Q427	5614-669A(C)	XISTOR, NPN A
134B	1424-23006	CABINET BACK G GB	Q428	5614-669A(C)	XISTOR, NPN A
134D	1424-23005	CABINET BACK N	Q429	5612-649A(C)	XISTOR, PNP A
136	1443-11303	FRONT PANEL UA G	Q430	5612-649A(C)	XISTOR, PNP A
136A	1443-11304	FRONT PANEL BK GB N	Q431	5613-3182(O)or(R)	XISTOR, NPN R
138	1513-09501	PANEL, PLATE	Q432	5613-3182(O)or(R)	XISTOR, NPN R
139	1531-11304	PANEL, WINDOW	Q433	5611-1265(O)or(R)	XISTOR, PNP R
141	1562-02801	FRAME, RIGHT UA G	Q434	5611-1265(O)or(R)	XISTOR, PNP R
141A	1562-02802	FRAME, RIGHT BK GB N	Q613	5613-3422(Y)or(O)	XISTOR, NPN R
142	1562-02701	FRAME, LEFT UA G	D401	5641-MV12YM	VARISTOR
142A	1562-02702	FRAME, LEFT BK GB N	D402	5641-MV12YM	VARISTOR
146	1660-00401	PUSH BUTTON, POWER UA G			
146A	1660-00403	PUSH BUTTON, POWER BK GB N			
147	1662-05701VN	PUSH BUTTON UA G			
147A	1662-05702	PUSH BUTTON BK GB N			
150	1630-02601	ROTARY KNOB, VOLUME UA G			
150A	1630-02603	ROTARY KNOB, VOLUME BK GB N			
152	1630-16502	ROTARY KNOB, FUNCTION SWITCH UA G			
152A	1630-16501	ROTARY KNOB, FUNCTION SWITCH BK GB N			
153	1630-16502	ROTARY KNOB UA G			
153A	1630-16501	ROTARY KNOB BK GB N			
157	1319-0139	LEG UA			
161	2211-7295	CHASSIS			
163	2219-8179	METAL FITTING, MAIN HEAT SINK			
164	2219-8178	METAL FITTING, SHAFT GUIDE			
172	2219-8181	METAL FITTING, EQ PCB			
173	2219-8182	METAL FITTING, MAIN HEAT SINK			
174	2219-7879	METAL FITTING, H/P JACK			
177	2222-7228	HEAT SINK, MAIN UA BK N			
177B	2222-7233	HEAT SINK, MAIN G GB			
178	2222-7214	HEAT SINK, DRIVER			
179	2222-7067	HEAT SINK, DRIVER MONO			
180	2222-7230	HEAT SINK, EQ			
182	2240-7320	HOLDER, POWER SWITCH			
183	2240-7141	HOLDER UA G			
183A	2240-7202	HOLDER BK GB N			
186	2240-7209	HOLDER, POWER			
187	2240-7315	HOLDER, LED			
188	2240-7316	HOLDER, PANEL			
189	2240-7050	HOLDER, WIRING			
190	2240-7176	HOLDER, FUSE			
191	2240-364	HOLDER, AC CORD			
197	2112-11755	SPONGE, SIDE			
198	2112-11762	SPONGE, PANEL			
199	2112-11784	SPONGE, CASSIS			
206	2401-0376	WASHER, METAL			
211	2310-7017	SCREW, SPE			
213	2672-7018	LEVER, POWER SHAFT			
214	2601-7077	SHAFT			
215	2601-7170	SHAFT, MC/MM SWITCH			
216	2601-7165	SHAFT, MC/MM BUTTON			
220	2651-210189	SPRING, PUSH BUTTON			
224	2360-7015	BOSS, SPE			
225	2327-R0130064	SCREW, BND+			
228	2327-R0130082	SCREW, BND+			
229	2327-R0130082	SCREW, BND+			
235	2347-R0130062	SCREW, BND T+			

P. C. BOARDS

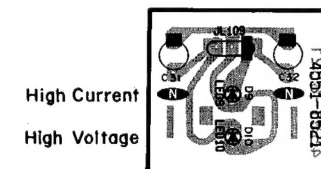
PCB-1 Main P. C. Board



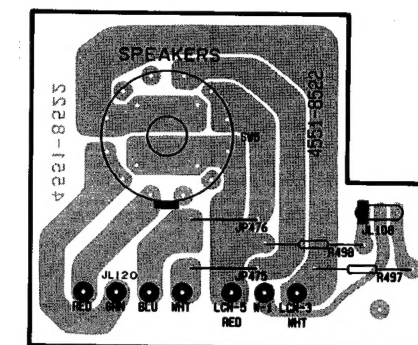
PCB-3 Headphone P. C. Board



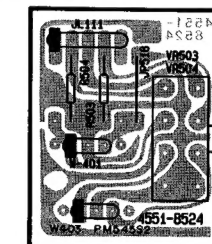
PCB-4 LED P. C. Board



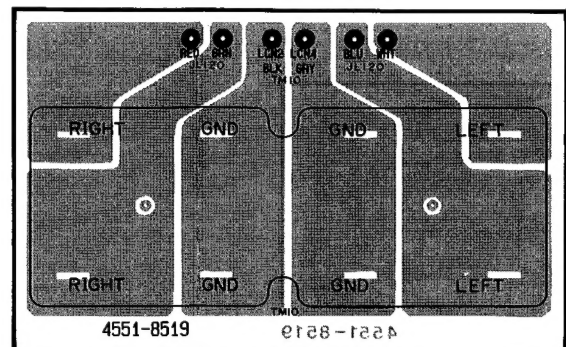
PCB-5 Speakers P. C. Board



PCB-6 VR P. C. Board



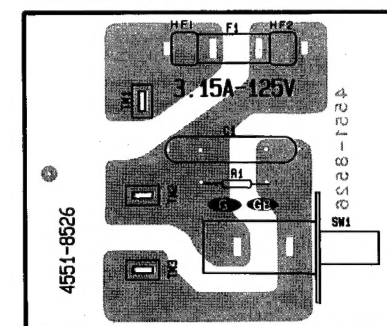
PCB-2 Speakers P. C. Board



SPEAKER SYSTEM 1

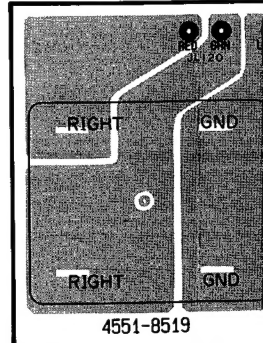
SPEAKER SYSTEM 2

PCB-7 Power Switch P. C. Board

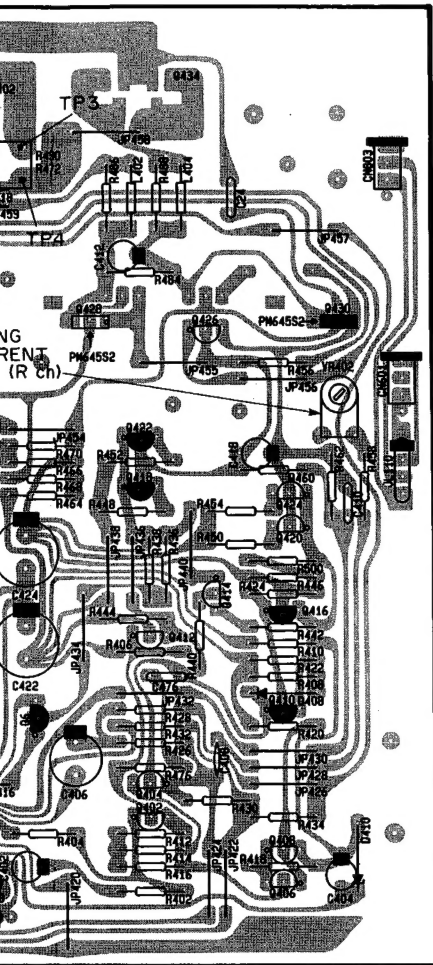


POWER

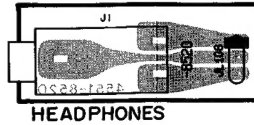
PCB-1 **Main P. C. Board**



E F G H I J

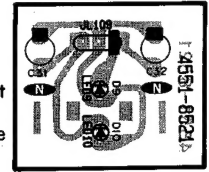


PCB-3 Headphone P. C. Board

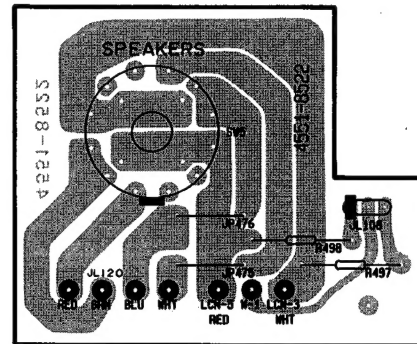


PCB-4 LED P. C. Board

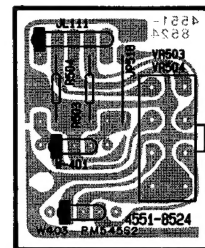
High Current
High Voltage



PCB-5 Speakers P. C Board

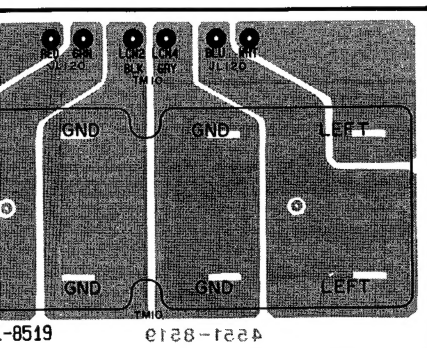


PCB-6 VR P. C. Board



VOLUME

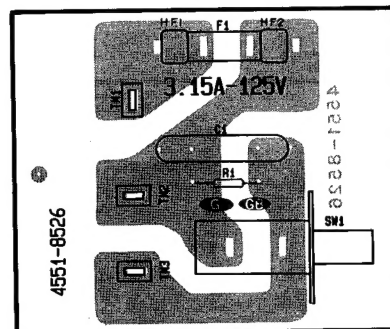
Speakers P. C. Board



SPEAKER
SYSTEM 1

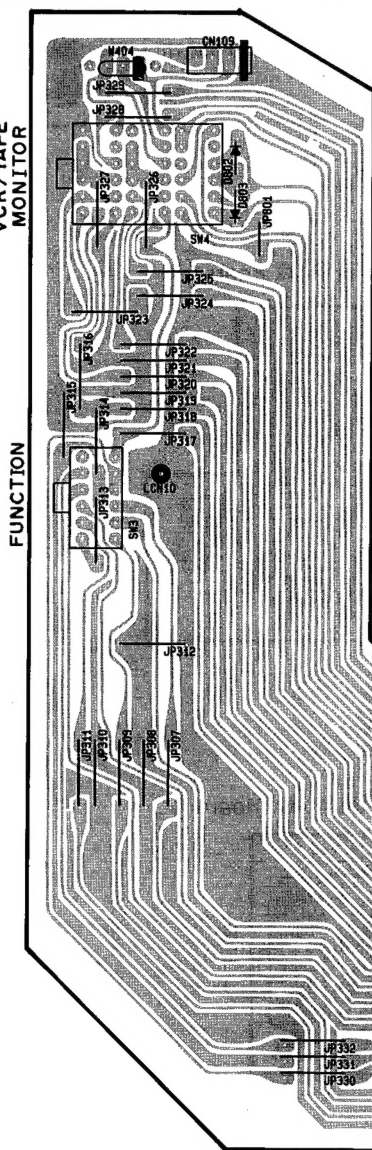
SPEAKER
SYSTEM 2

PCB-7 Power Switch P. C. Board

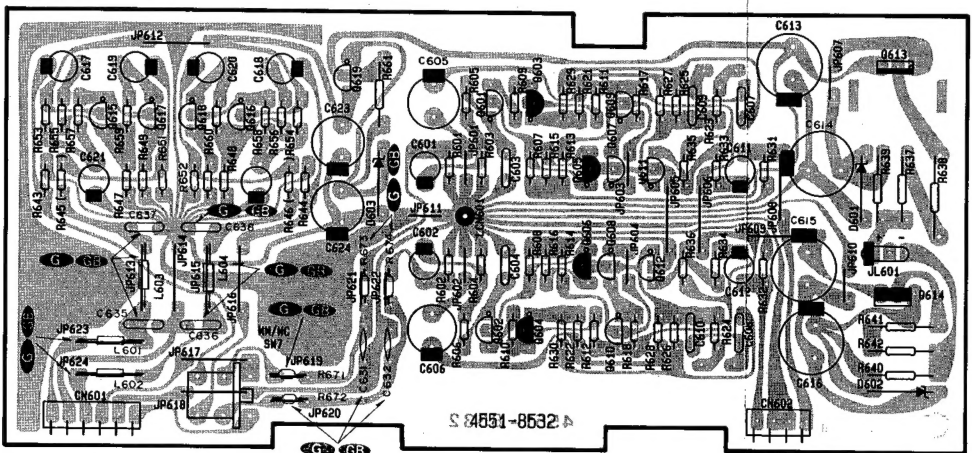


P. C. BOARDS

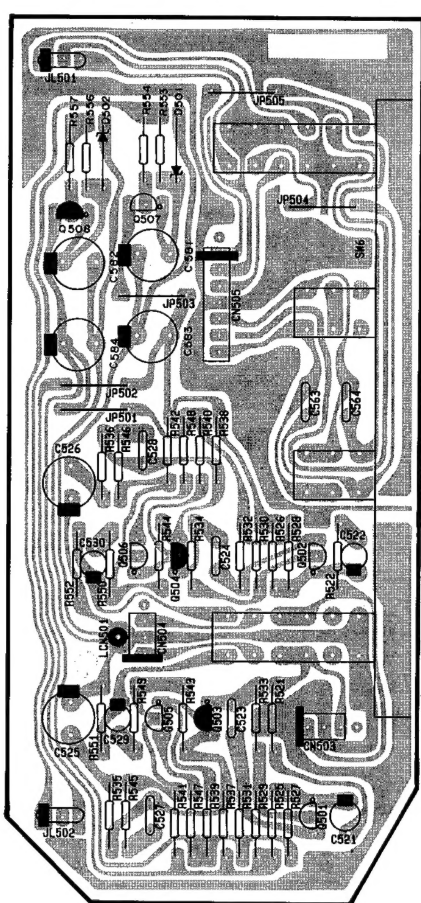
PCB-8 Function P. C. Board



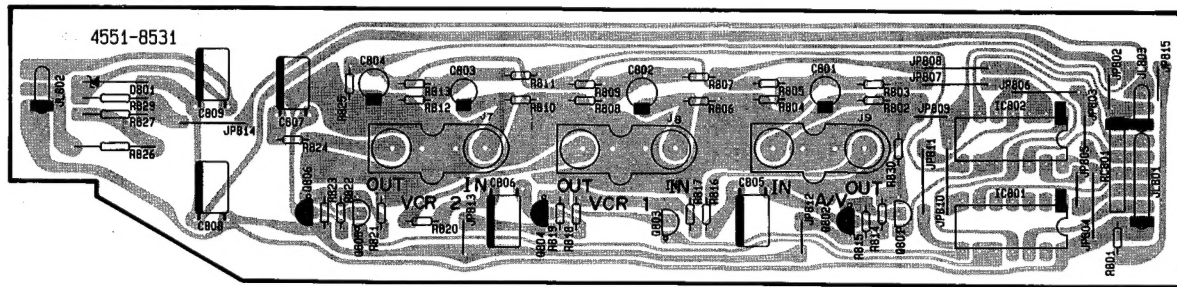
PCB-11 Equalizer P. C. Board



PCB-9 Bass Control P. C. Board



PCB-10 Video P. C. Board

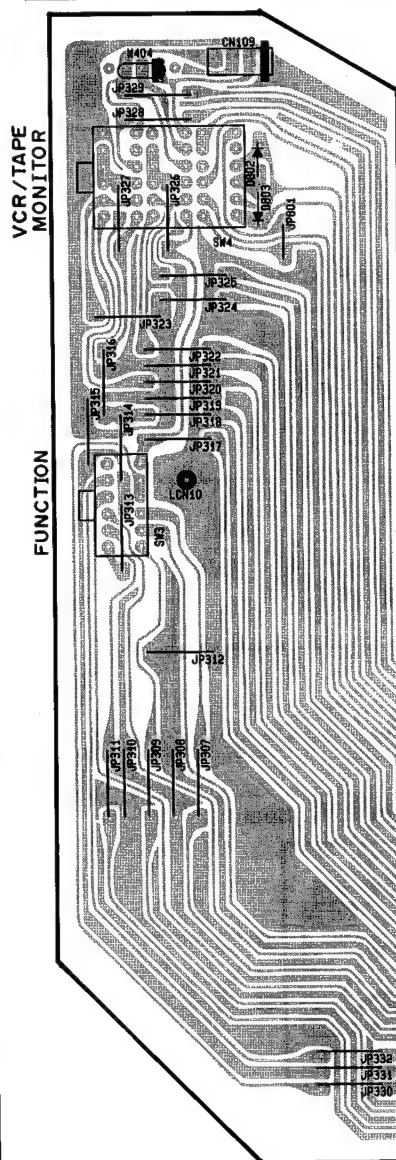


PCB-12 Q807 P. C. Board

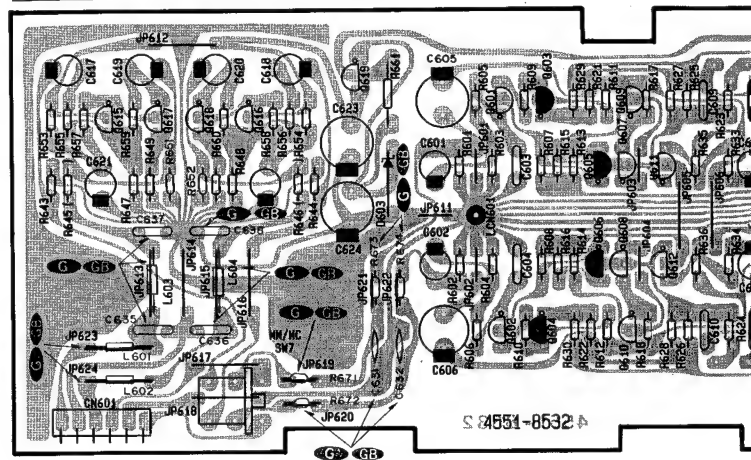


P. C. BOARDS

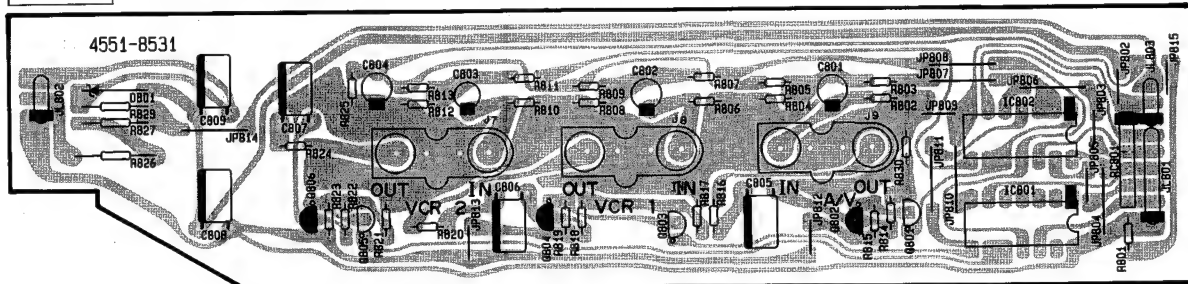
PCB-8 Function P. C. Board

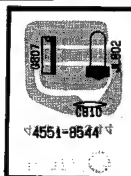


PCB-11 **Equalizer P. C. Board**



PCB-10 **Video P. C. Board**





ELECTRICAL PARTS LIST

Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description
PCB-1 MAIN P.C. BOARD				672	R15	5135-223522	RES, CBN 1/2P 22K
CAPACITORS				672	R16	5135-223522	RES, CBN 1/2P 22K
662	C2	5345-106F04I	CAP, MINI ELE 10μ/50V	674	R17	5135-562522	RES, CBN 1/2P 5.6K
689	C3	5362-103048	CAP, CER .01μ	674	R18	5135-562522	RES, CBN 1/2P 5.6K
689	C4	5362-103048	CAP, CER .01μ	673	R19	5135-122522	RES, CBN 1/2P 1.2K
687	C5	5341-109G0355	CAP, ELE 10000μ/63V	674	R21	5135-562522	RES, CBN 1/2P 5.6K
687	C6	5341-109G0355	CAP, ELE 10000μ/63V	674	R22	5135-562522	RES, CBN 1/2P 5.6K
660	C7	5345-105F04I	CAP, MINI ELE 1μ/50V	670	R23	5135-472522	RES, CBN 1/2P 4.7K
661	C8	5345-107B04I	CAP, MINI ELE 100μ/10V	670	R24	5135-472522	RES, CBN 1/2P 4.7K
659	C9	5345-106C04I	CAP, MINI ELE 10μ/16V	671	R25	5135-473522	RES, CBN 1/2P 47K
659	C10	5345-106C04I	CAP, MINI ELE 10μ/16V	672	R26	5135-223522	RES, CBN 1/2P 22K
663	C15	5354-683J1HM	CAP, MYL .068μ	671	R28	5135-473522	RES, CBN 1/2P 47K
663	C16	5354-683J1HM	CAP, MYL .068μ	668	R30	5135-103522	RES, CBN 1/2P 10K
664	C17	5354-473J1HM	CAP, MYL .047μ	667	R31	5135-822522	RES, CBN 1/2P 8.2K
665	C21	5354-104593	CAP, MYL .1μ	667	R32	5135-822522	RES, CBN 1/2P 8.2K
665	C22	5354-104593	CAP, MYL .1μ	603	R401	5135-102522	RES, CBN 1/2P 1K
665	C23	5354-104593	CAP, MYL .1μ	603	R402	5135-102522	RES, CBN 1/2P 1K
665	C24	5354-104593	CAP, MYL .1μ	604	R403	5135-683522	RES, CBN 1/2P 68K
057B	C35	5352-1041957	CAP, MTL .1μ	604	R404	5135-683522	RES, CBN 1/2P 68K
581	C401	5345-476B095I	CAP, MINI ELE 47μ/10V	605	R405	5135-122522	RES, CBN 1/2P 1.2K
581	C402	5345-476B095I	CAP, MINI ELE 47μ/10V	605	R406	5135-122522	RES, CBN 1/2P 1.2K
583	C403	5345-106C04I	CAP, MINI ELE 10μ/16V	605	R407	5135-122522	RES, CBN 1/2P 1.2K
583	C404	5345-106C04I	CAP, MINI ELE 10μ/16V	605	R408	5135-122522	RES, CBN 1/2P 1.2K
582	C405	5345-227A095I	CAP, MINI ELE 220μ/6.3V	606	R409	5135-822522	RES, CBN 1/2P 8.2K
582	C406	5345-227A095I	CAP, MINI ELE 220μ/6.3V	606	R410	5135-822522	RES, CBN 1/2P 8.2K
592	C407	5353-020934	CAP, MCA 2p	607	R411	5135-680522	RES, CBN 1/2P 68
592	C408	5353-020934	CAP, MCA 2p	607	R412	5135-680522	RES, CBN 1/2P 68
590	C409	5359-101585I	CAP, PPP 100p	607	R413	5135-680522	RES, CBN 1/2P 68
590	C410	5359-101585I	CAP, PPP 100p	607	R414	5135-680522	RES, CBN 1/2P 68
583	C411	5345-106C04I	CAP, MINI ELE 10μ/16V	623	R415	5135-222522	RES, CBN 1/2P 2.2K
583	C412	5345-106C04I	CAP, MINI ELE 10μ/16V	623	R416	5135-222522	RES, CBN 1/2P 2.2K
595	C413	5354-683J1HM	CAP, MYL .068μ	609	R417	5135-561522	RES, CBN 1/2P 560
595	C414	5354-683J1HM	CAP, MYL .068μ	609	R418	5135-561522	RES, CBN 1/2P 560
595	C415	5354-683J1HM	CAP, MYL .068μ	604	R419	5135-683522	RES, CBN 1/2P 68K
595	C416	5354-683J1HM	CAP, MYL .068μ	604	R420	5135-683522	RES, CBN 1/2P 68K
583	C417	5345-106C04I	CAP, MINI ELE 10μ/16V	638	ΔR421	5102-3314715	RES, FUSE 330
583	C418	5345-106C04I	CAP, MINI ELE 10μ/16V	638	ΔR422	5102-3314715	RES, FUSE 330
584	C421	5345-337F04I	CAP, MINI ELE 330μ/50V	638	ΔR423	5102-3314715	RES, FUSE 330
584	C422	5345-337F04I	CAP, MINI ELE 330μ/50V	638	ΔR424	5102-3314715	RES, FUSE 330
584	C423	5345-337F04I	CAP, MINI ELE 330μ/50V	610	R425	5135-473522	RES, CBN 1/2P 47K
584	C424	5345-337F04I	CAP, MINI ELE 330μ/50V	610	R426	5135-473522	RES, CBN 1/2P 47K
590	C475	5359-101585I	CAP, PPP 100p	610	R427	5135-473522	RES, CBN 1/2P 47K
590	C476	5359-101585I	CAP, PPP 100p	610	R428	5135-473522	RES, CBN 1/2P 47K
585	C505	5345-225F095I	CAP, MINI ELE 2.2μ/50V	611	R429	5135-224522	RES, CBN 1/2P 220K
585	C506	5345-225F095I	CAP, MINI ELE 2.2μ/50V	611	R430	5135-224522	RES, CBN 1/2P 220K
596	C507	5354-563J1HM	CAP, MYL .056μ	618	R431	5135-750522	RES, CBN 1/2P 75
596	C508	5354-563J1HM	CAP, MYL .056μ	618	R432	5135-750522	RES, CBN 1/2P 75
599	C509	5354-224593	CAP, MYL .22μ	612	R433	5135-272522	RES, CBN 1/2P 2.7K
599	C510	5354-224593	CAP, MYL .22μ	612	R434	5135-272522	RES, CBN 1/2P 2.7K
586	C511	5345-106C095I	CAP, MINI ELE 10μ/16V	613	R435	5135-223522	RES, CBN 1/2P 22K
586	C512	5345-106C095I	CAP, MINI ELE 10μ/16V	613	R436	5135-223522	RES, CBN 1/2P 22K
597	C513	5354-822J1HM	CAP, MYL 8200p	613	R437	5135-223522	RES, CBN 1/2P 22K
597	C514	5354-822J1HM	CAP, MYL 8200p	613	R438	5135-223522	RES, CBN 1/2P 22K
598	C515	5354-393J1HM	CAP, MYL .039μ	624	R439	5135-153522	RES, CBN 1/2P 15K
598	C516	5354-393J1HM	CAP, MYL .039μ	624	R440	5135-153522	RES, CBN 1/2P 15K
591	C517	5359-331585I	CAP, PPP 330p	614	R441	5135-123522	RES, CBN 1/2P 12K
591	C518	5359-331585I	CAP, PPP 330p	614	R442	5135-123522	RES, CBN 1/2P 12K
RESISTORS				633	R443	5174-222381	RES, MTL 1/4P 2.2K
680	ΔR3	5102-2204715	RES, FUSE 22	633	R444	5174-222381	RES, MTL 1/4P 2.2K
680	ΔR4	5102-2204715	RES, FUSE 22	633	R445	5174-222381	RES, MTL 1/4P 2.2K
679	ΔR5	5102-5R64715	RES, FUSE 5.6	633	R446	5174-222381	RES, MTL 1/4P 2.2K
668	R6	5135-103522	RES, CBN 1/2P 10K	636	ΔR447	5102-1014715	RES, FUSE 100
677	R7	5135-221522	RES, CBN 1/2P 220	636	ΔR448	5102-1014715	RES, FUSE 100
677	R8	5135-221522	RES, CBN 1/2P 220	636	ΔR449	5102-1014715	RES, FUSE 100
670	R9	5135-472522	RES, CBN 1/2P 4.7K	636	ΔR450	5102-1014715	RES, FUSE 100
670	R10	5135-472522	RES, CBN 1/2P 4.7K	636	ΔR451	5102-1014715	RES, FUSE 100
667	R11	5135-822522	RES, CBN 1/2P 8.2K	636	ΔR452	5102-1014715	RES, FUSE 100
669	R12	5135-104522	RES, CBN 1/2P 100K	636	ΔR453	5102-1014715	RES, FUSE 100
675	R13	5135-683522	RES, CBN 1/2P 68K	636	ΔR454	5102-1014715	RES, FUSE 100
676	R14	5135-333522	RES, CBN 1/2P 33K	615	R455	5135-821522	RES, CBN 1/2P 820
				615	R456	5135-821522	RES, CBN 1/2P 820
				615	R457	5135-821522	RES, CBN 1/2P 820

Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description
615	R458	5135-821522	RES, CBN 1/2P 820	566	Q425	5613-945(K)or(P)	XISTOR, NPN R
625	R459	5135-183522	RES, CBN 1/2P 18K	566	Q426	5613-945(K)or(P)	XISTOR, NPN R
625	R460	5135-183522	RES, CBN 1/2P 18K	567	Q427	5614-669A(C)	XISTOR, NPN A
625	R461	5135-183522	RES, CBN 1/2P 18K	567	Q428	5614-669A(C)	XISTOR, NPN A
625	R462	5135-183522	RES, CBN 1/2P 18K	568	Q429	5612-649A(C)	XISTOR, PNP A
617	R463	5135-100522	RES, CBN 1/2P 10	568	Q430	5612-649A(C)	XISTOR, PNP A
617	R464	5135-100522	RES, CBN 1/2P 10	569	Q431	5613-3182(O)or(R)	XISTOR, NPN R
617	R465	5135-100522	RES, CBN 1/2P 10	569	Q432	5613-3182(O)or(R)	XISTOR, NPN R
617	R466	5135-100522	RES, CBN 1/2P 10	571	Q433	5611-1265(O)or(R)	XISTOR, PNP R
637	△R467	5102-1004715	RES, FUSE 10	571	Q434	5611-1265(O)or(R)	XISTOR, PNP R
637	△R468	5102-1004715	RES, FUSE 10	DIODES			
637	△R469	5102-1004715	RES, FUSE 10	681	△D1	5632-ERC102FL	DIODE, RECT
637	△R470	5102-1004715	RES, FUSE 10	681	△D2	5632-ERC102FL	DIODE, RECT
639	R471	5273-R27672	RES, CEM 3P .27	681	△D3	5632-ERC102FL	DIODE, RECT
639	R472	5273-R27672	RES, CEM 3P .27	681	△D4	5632-ERC102FL	DIODE, RECT
605	R475	5135-122522	RES, CBN 1/2P 1.2K	656	D5	5636-1S247I	DIODE, SWITCH
605	R476	5135-122522	RES, CBN 1/2P 1.2K	656	D6	5636-1S247I	DIODE, SWITCH
616	R483	5135-820522	RES, CBN 1/2P 82	656	D7	5636-1S247I	DIODE, SWITCH
616	R484	5135-820522	RES, CBN 1/2P 82	656	D8	5636-1S247I	DIODE, SWITCH
617	R485	5135-100522	RES, CBN 1/2P 10	657	D11	5635-HZ6B-1L	DIODE, ZENER
617	R486	5135-100522	RES, CBN 1/2P 10	579	D401	5641-MV12YM	VARISTOR
617	R487	5135-100522	RES, CBN 1/2P 10	579	D402	5641-MV12YM	VARISTOR
617	R488	5135-100522	RES, CBN 1/2P 10	577	D403	5632-S5566B	DIODE, RECT
639	R489	5273-R27672	RES, CEM 3P .27	577	D404	5632-S5566B	DIODE, RECT
639	R490	5273-R27672	RES, CEM 3P .27	577	D405	5632-S5566B	DIODE, RECT
627	R491	5135-4R7522	RES, CBN 1/2P 4.7	577	D406	5632-S5566B	DIODE, RECT
627	R492	5135-4R7522	RES, CBN 1/2P 4.7	575	D407	5631-1S2473	DIODE, DET
627	R493	5135-4R7522	RES, CBN 1/2P 4.7	575	D408	5631-1S2473	DIODE, DET
627	R494	5135-4R7522	RES, CBN 1/2P 4.7	576	D409	5635-HZ12B2L	DIODE, ZENER
626	R495	5135-220522	RES, CBN 1/2P 22	576	D410	5635-HZ12B2L	DIODE, ZENER
626	R496	5135-220522	RES, CBN 1/2P 22	COILS			
607	R499	5135-680522	RES, CBN 1/2P 68	643	L401	5597-45502	CORE, BEADS
607	R500	5135-680522	RES, CBN 1/2P 68	643	L402	5597-45502	CORE, BEADS
619	R501	5135-152522	RES, CBN 1/2P 1.5K	643	L403	5597-45502	CORE, BEADS
619	R502	5135-152522	RES, CBN 1/2P 1.5K	643	L404	5597-45502	CORE, BEADS
620	R507	5135-822522	RES, CBN 1/2P 8.2K	644	L405	5991-7165	SPRING COIL
620	R508	5135-822522	RES, CBN 1/2P 8.2K	644	L406	5991-7165	SPRING COIL
621	R509	5135-182522	RES, CBN 1/2P 1.8K	CONTROLS			
621	R510	5135-182522	RES, CBN 1/2P 1.8K	641	VR401	5101-50171920	RES, SEMI FIX 500
622	R513	5135-271522	RES, CBN 1/2P 270	641	VR402	5101-50171920	RES, SEMI FIX 500
622	R514	5135-271522	RES, CBN 1/2P 270	720	VR501	5113-50399122	RES, V CBN 16 50K
TRANSISTORS				720	VR502	5113-50399122	RES, V CBN 16 50K
652	Q1	5611-1115(F)or(E)	XISTOR, PNP R	714	VR505	5113-10441122	RES, V CBN 16 100K
651	Q2	5613-2603(F)or(E)	XISTOR, NPN R	714	VR506	5113-10441122	RES, V CBN 16 100K
653	Q3	5611-970(BL)	XISTOR, PNP R	717	VR507	5113-50342122	RES, V CBN 16 50K
653	Q4	5611-970(BL)	XISTOR, PNP R	717	VR508	5113-50342122	RES, V CBN 16 50K
653	Q5	5611-970(BL)	XISTOR, PNP R	MISCELLANEOUS			
653	Q6	5611-970(BL)	XISTOR, PNP R	747	LCN2	4163-0140026	CONNECTOR W/W
654	Q7	5613-2240(BL)	XISTOR, NPN R	748	LCN3	4163-0140027	CONNECTOR W/W
561	Q401	5613-2240(BL)	XISTOR, NPN R	749	LCN4	4163-0140024	CONNECTOR W/W
561	Q402	5613-2240(BL)	XISTOR, NPN R	750	LCN5	4163-0140025	CONNECTOR W/W
561	Q403	5613-2240(BL)	XISTOR, NPN R	751	LCN6	4163-0116024	CONNECTOR W/W
561	Q404	5613-2240(BL)	XISTOR, NPN R	751	LCN7	4163-0116024	CONNECTOR W/W
562	Q405	5613-2603(F)or(E)	XISTOR, NPN R	751	LCN8	4163-0116024	CONNECTOR W/W
562	Q406	5613-2603(F)or(E)	XISTOR, NPN R	753	LCN9	4163-0116020	CONNECTOR W/W
562	Q407	5613-2603(F)or(E)	XISTOR, NPN R	756	LCN110	4163-0125021	CONNECTOR W/W
562	Q408	5613-2603(F)or(E)	XISTOR, NPN R	757	LCN111	4163-0125020	CONNECTOR W/W
563	Q409	5611-970(BL)	XISTOR, PNP R	758	LCN112	4163-0125022	CONNECTOR W/W
563	Q410	5611-970(BL)	XISTOR, PNP R	759	LCN113	4163-0125023	CONNECTOR W/W
573	Q411	5613-2240(BL)	XISTOR, NPN R	699	CN502	4443-030185	CONNECTOR
573	Q412	5613-2240(BL)	XISTOR, NPN R	699	CN601	4443-030185	CONNECTOR
573	Q413	5613-2240(BL)	XISTOR, NPN R	699	CN803	4443-030185	CONNECTOR
573	Q414	5613-2240(BL)	XISTOR, NPN R	764	JL107	4242-R0203600	JUMPER LEAD
563	Q415	5611-970(BL)	XISTOR, PNP R	763	JL109	4242-R0103201	JUMPER LEAD
563	Q416	5611-970(BL)	XISTOR, PNP R	762	JL110	4242-R0104181	JUMPER LEAD
564	Q417	5612-646A(C)	XISTOR, PNP A	766	JL505	4242-R0207141	JUMPER LEAD
564	Q418	5612-646A(C)	XISTOR, PNP A	694	TM101	4214-11023	TERMINAL
565	Q419	5614-666A(C)	XISTOR, NPN A	693	TM102	4214-11013	TERMINAL
565	Q420	5614-666A(C)	XISTOR, NPN A	646	TM110	4214-11013	TERMINAL
564	Q421	5612-646A(C)	XISTOR, PNP A				
564	Q422	5612-646A(C)	XISTOR, PNP A				
565	Q423	5614-666A(C)	XISTOR, NPN A				
565	Q424	5614-666A(C)	XISTOR, NPN A				

Ser. No. Ref. No. Part No. Description

PCB-2 SPEAKERS P.C.BOARD

743 TM10 4214-156 TERMINAL

PCB-3 HEADPHONE P.C.BOARD

736 J1 4451-00159 JACK, 1P
761 JL120 4242-043805 JUMPER LEAD

PCB-4 LED P.C.BOARD

CAPACITORS

051D C31 5345-106C0356 CAP, MINI ELE 10 μ /16V **N**
051D C32 5345-106C0356 CAP, MINI ELE 10 μ /16V **N**

DIODES

741 D9 5637-SLP965B5 LED
741 D10 5637-SLP965B5 LED

PCB-5 SPEAKER SWITCH P.C.BOARD

RESISTORS

634 R497 5171-471571 RES, MTL 1 470
634 R498 5171-471571 RES, MTL 1 470

MISCELLANEOUS

765 JL108 4242-R0103101 JUMPER LEAD
729 SW5 4411-00301104 SWITCH, ROTARY

PCB-6 VR P.C.BOARD

RESISTORS

629 R503 5135-472522 RES, CBN 1/2P 4.7K
629 R504 5135-472522 RES, CBN 1/2P 4.7K

CONTROLS

711 VR503 5113-10419122 RES, V CBN 16 100K
711 VR504 5113-10419122 RES, V CBN 16 100K

PCB-7 POWER SWITCH P.C.BOARD

CAPACITORS

688 Δ C1 5361-1030419 CAP, CER .01 μ **UA BK**
688B Δ C1 5352-1030958 CAP, MTL .01 μ **G GB**
688D Δ C1 5352-1030961 CAP, MTL .01 μ **N**

RESISTORS

054B Δ R1 5135-335522 RES, CBN 1/2P 3.3M **G GB**

MISCELLANEOUS

684 Δ HF1 4472-0131 HOLDER, FUSE
684 Δ HF2 4472-0131 HOLDER, FUSE
732 Δ SW1 4431-A01716 SWITCH, PUSH
696 TM1 4214-122 TERMINAL
696 TM2 4214-122 TERMINAL
696 TM3 4214-122 TERMINAL

PCB-8 FUNCTION P.C.BOARD

CAPACITORS

059B C633 5359-1215851 CAP, PPP 120p **G GB**
059B C634 5359-1215851 CAP, PPP 120p **G GB**
058B C640 5361-1032F CAP, CER .01 μ **G GB**

DIODES

838 D802 5631-ISS133 DIODE, DET
838 D803 5631-ISS133 DIODE, DET

MISCELLANEOUS

737 J2 4484-46 PIN JACK, 4P **UA BK G GB**
737D J2 4484-49 PIN JACK, 4P **N**
738 J3 4484-46 PIN JACK, 4P **UA BK G GB**

Ser. No. Ref. No. Part No.

Description

738D J3 4484-50 PIN JACK, 4P **N**
738 J4 4484-46 PIN JACK, 4P **UA BK G GB**
738D J4 4484-50 PIN JACK, 4P **N**
738 J5 4484-46 PIN JACK, 4P **UA BK G GB**
738D J5 4484-50 PIN JACK, 4P **N**
739 J6 4486-15 PIN JACK, 6P **UA BK G GB**
739D J6 4486-18 PIN JACK, 6P **N**

755 LCN10 4163-0108020 CONNECTOR W/W

700 CN109 4443-030185 CONNECTOR

700 CN501 4443-030185 CONNECTOR

701 CN801 4443-060185 CONNECTOR

723 SW3 4411-00203104 SWITCH, ROTARY

726 SW4 4411-00205304 SWITCH, ROTARY

PCB-9 BASS CONTROL P.C.BOARD

CAPACITORS

806 C521 5345-104F0951 CAP, MINI ELE .1 μ /50V
806 C522 5345-104F0951 CAP, MINI ELE .1 μ /50V
810 C523 5354-154593 CAP, MYL .15 μ
810 C524 5354-154593 CAP, MYL .15 μ
808 C525 5345-107D041 CAP, MINI ELE 100 μ /25V
808 C526 5345-107D041 CAP, MINI ELE 100 μ /25V
811 C527 5354-334593 CAP, MYL .33 μ
811 C528 5354-334593 CAP, MYL .33 μ
807 C529 5345-224F0951 CAP, MINI ELE .22 μ /50V
807 C530 5345-224F0951 CAP, MINI ELE .22 μ /50V
812 C563 5354-474593 CAP, MYL .47 μ
812 C564 5354-474593 CAP, MYL .47 μ
809 C581 5345-227D041 CAP, MINI ELE 220 μ /25V
809 C582 5345-227D041 CAP, MINI ELE 220 μ /25V
809 C583 5345-227D041 CAP, MINI ELE 220 μ /25V
809 C584 5345-227D041 CAP, MINI ELE 220 μ /25V

RESISTORS

814 R521 5135-471522 RES, CBN 1/2P 470
814 R522 5135-471522 RES, CBN 1/2P 470
815 R525 5135-684522 RES, CBN 1/2P 680K
815 R526 5135-684522 RES, CBN 1/2P 680K
816 R527 5135-224522 RES, CBN 1/2P 220K
816 R528 5135-224522 RES, CBN 1/2P 220K
817 R529 5135-332522 RES, CBN 1/2P 3.3K
817 R530 5135-332522 RES, CBN 1/2P 3.3K
817 R531 5135-332522 RES, CBN 1/2P 3.3K
817 R532 5135-332522 RES, CBN 1/2P 3.3K
818 R533 5135-183522 RES, CBN 1/2P 18K
818 R534 5135-183522 RES, CBN 1/2P 18K
819 R535 5135-472522 RES, CBN 1/2P 4.7K
819 R536 5135-472522 RES, CBN 1/2P 4.7K
820 R537 5135-562522 RES, CBN 1/2P 5.6K
820 R538 5135-562522 RES, CBN 1/2P 5.6K
817 R539 5135-332522 RES, CBN 1/2P 3.3K
817 R540 5135-332522 RES, CBN 1/2P 3.3K
817 R541 5135-332522 RES, CBN 1/2P 3.3K
817 R542 5135-332522 RES, CBN 1/2P 3.3K
818 R543 5135-183522 RES, CBN 1/2P 18K
818 R544 5135-183522 RES, CBN 1/2P 18K
821 R545 5135-331522 RES, CBN 1/2P 330
821 R546 5135-331522 RES, CBN 1/2P 330
823 R547 5135-221522 RES, CBN 1/2P 220
823 R548 5135-221522 RES, CBN 1/2P 220
821 R549 5135-331522 RES, CBN 1/2P 330
821 R550 5135-331522 RES, CBN 1/2P 330
822 R551 5135-104522 RES, CBN 1/2P 100K
822 R552 5135-104522 RES, CBN 1/2P 100K
828 R553 5135-153522 RES, CBN 1/2P 15K
830 Δ R554 5102-8214715 RES, FUSE 820
828 R556 5135-153522 RES, CBN 1/2P 15K
830 Δ R557 5102-8214715 RES, FUSE 820

TRANSISTORS

801 Q501 5613-2603(F)or(E) XISTOR, NPN R
801 Q502 5613-2603(F)or(E) XISTOR, NPN R

Ser. No.	Ref. No.	Part No.	Description
802	Q503	5611-1115(F)or(E)	XISTOR, PNP R
802	Q504	5611-1115(F)or(E)	XISTOR, PNP R
801	Q505	5613-2603(F)or(E)	XISTOR, NPN R
801	Q506	5613-2603(F)or(E)	XISTOR, NPN R
804	Q507	5612-647(C)	XISTOR, PNP A
803	Q508	5614-667(C)	XISTOR, NPN A

DIODES

805	D501	5635-HZ12B2L	DIODE, ZENER
805	D502	5635-HZ12B2L	DIODE, ZENER

MISCELLANEOUS

754	LCN501	4163-0116020	CONNECTOR W/W
702	CN503	4443-030185	CONNECTOR
702	CN504	4443-030185	CONNECTOR
703	CN505	4443-070185	CONNECTOR
767	JL501	4242-R0203800	JUMPER LEAD
767	JL502	4242-R0203800	JUMPER LEAD
731	SW6	4431-04127170	SWITCH, PUSH

PCB-10 VIDEO P.C. BOARD**CAPACITORS**

842	C801	5345-107B041	CAP, MINI ELE 100 μ /10V
842	C802	5345-107B041	CAP, MINI ELE 100 μ /10V
842	C803	5345-107B041	CAP, MINI ELE 100 μ /10V
843	C804	5345-106C041	CAP, MINI ELE 10 μ /16V
840	C805	5345-337B041	CAP, MINI ELE 330 μ /10V
840	C806	5345-337B041	CAP, MINI ELE 330 μ /10V
840	C807	5345-337B041	CAP, MINI ELE 330 μ /10V
841	C808	5345-227C041	CAP, MINI ELE 220 μ /16V
841	C809	5345-227C041	CAP, MINI ELE 220 μ /16V

RESISTORS

847	R801	5232-122J16P	RES, CBN 1/6P 1.2K
848	R802	5232-750J16P	RES, CBN 1/6P 75
849	R803	5232-331J16P	RES, CBN 1/6P 330
850	R804	5232-393J16P	RES, CBN 1/6P 39K
850	R805	5232-393J16P	RES, CBN 1/6P 39K
848	R806	5232-750J16P	RES, CBN 1/6P 75
849	R807	5232-331J16P	RES, CBN 1/6P 330
850	R808	5232-393J16P	RES, CBN 1/6P 39K
850	R809	5232-393J16P	RES, CBN 1/6P 39K
848	R810	5232-750J16P	RES, CBN 1/6P 75
849	R811	5232-331J16P	RES, CBN 1/6P 330
850	R812	5232-393J16P	RES, CBN 1/6P 39K
850	R813	5232-393J16P	RES, CBN 1/6P 39K
851	R814	5232-221J16P	RES, CBN 1/6P 220
852	R815	5232-271J16P	RES, CBN 1/6P 270
848	R816	5232-750J16P	RES, CBN 1/6P 75
851	R817	5232-221J16P	RES, CBN 1/6P 220
851	R818	5232-221J16P	RES, CBN 1/6P 220
852	R819	5232-271J16P	RES, CBN 1/6P 270
848	R820	5232-750J16P	RES, CBN 1/6P 75
851	R821	5232-221J16P	RES, CBN 1/6P 220
851	R822	5232-221J16P	RES, CBN 1/6P 220
852	R823	5232-271J16P	RES, CBN 1/6P 270
848	R824	5232-750J16P	RES, CBN 1/6P 75
853	R825	5232-272J16P	RES, CBN 1/6P 2.7K
856	R826	5171-S010J221	RES, MTL 1 220
858	△R827	5102-5604715	RES, FUSE 56
855	R829	5135-153522	RES, CBN 1/2P 15K
851	R830	5232-221J16P	RES, CBN 1/6P 220

INTEGRATED CIRCUITS

831	IC801	5654-TC4066BP	IC, DIGITAL
831	IC802	5654-TC4066BP	IC, DIGITAL

TRANSISTORS

833	Q801	5613-2603(F)or(E)	XISTOR, NPN R
835	Q802	5611-1115(F)or(E)	XISTOR, PNP R
833	Q803	5613-2603(F)or(E)	XISTOR, NPN R
835	Q804	5611-1115(F)or(E)	XISTOR, PNP R
833	Q805	5613-2603(F)or(E)	XISTOR, NPN R
835	Q806	5611-1115(F)or(E)	XISTOR, PNP R

Ser. No.	Ref. No.	Part No.	Description
837	D801	5635-HZ12B2L	DIODE, ZENER

MISCELLANEOUS

740	J7	4489-00101002	PIN JACK, MLT
740D	J7	4489-00102002	PIN JACK, MLT
740	J8	4489-00101002	PIN JACK, MLT
740D	J8	4489-00102002	PIN JACK, MLT
740	J9	4489-00101002	PIN JACK, MLT
740D	J9	4489-00102002	PIN JACK, MLT
770	JL801	4242-R0206141	JUMPER LEAD
768	JL802	4242-R0103221	JUMPER LEAD
769	JL803	4242-R0203181	JUMPER LEAD
845	RC801	5212-473J0501	R COMPOSITE

PCB-11 EQUALIZER P.C. BOARD**CAPACITORS**

509	C601	5345-336C0951	CAP, MINI ELE 33 μ /16V
509	C602	5345-336C0951	CAP, MINI ELE 33 μ /16V
513	C603	5359-1215851	CAP, PPP 120p
513	C604	5359-1215851	CAP, PPP 120p
510	C605	5345-107B0951	CAP, MINI ELE 100 μ /10V
510	C606	5345-107B0951	CAP, MINI ELE 100 μ /10V
514	C607	5359-5625851	CAP, PPP 5600p
514	C608	5359-5625851	CAP, PPP 5600p
515	C609	5359-2025851	CAP, PPP 2000p
515	C610	5359-2025851	CAP, PPP 2000p
511	C611	5345-106C0951	CAP, MINI ELE 10 μ /16V
511	C612	5345-106C0951	CAP, MINI ELE 10 μ /16V
512	C613	5345-227D041	CAP, MINI ELE 220 μ /25V
512	C614	5345-227D041	CAP, MINI ELE 220 μ /25V
512	C615	5345-227D041	CAP, MINI ELE 220 μ /25V
512	C616	5345-227D041	CAP, MINI ELE 220 μ /25V
546	C617	5345-106C0951	CAP, MINI ELE 10 μ /16V
546	C618	5345-106C0951	CAP, MINI ELE 10 μ /16V
547	C619	5345-107B0951	CAP, MINI ELE 100 μ /10V
547	C620	5345-107B0951	CAP, MINI ELE 100 μ /10V
547	C621	5345-107B0951	CAP, MINI ELE 100 μ /10V
547	C622	5345-107B0951	CAP, MINI ELE 100 μ /10V
548	C623	5345-107C041	CAP, MINI ELE 100 μ /16V
548	C624	5345-107C041	CAP, MINI ELE 100 μ /16V
056B	C631	5353-820534	CAP, MCA 82p
056B	C632	5353-820534	CAP, MCA 82p
060B	C635	5359-1025851	CAP, PPP 1000p
060B	C636	5359-1025851	CAP, PPP 1000p
061B	C637	5354-473593	CAP, MYL .047 μ
061B	C638	5354-473593	CAP, MYL .047 μ

RESISTORS

517	R601	5232-823J16P	RES, CBN 1/6P 82K
517	R602	5232-823J16P	RES, CBN 1/6P 82K
518	R603	5232-124J16P	RES, CBN 1/6P 120K
518	R604	5232-124J16P	RES, CBN 1/6P 120K
519	R605	5232-221J16P	RES, CBN 1/6P 220
519	R606	5232-221J16P	RES, CBN 1/6P 220
520	R607	5232-392J16P	RES, CBN 1/6P 3.9K
520	R608	5232-392J16P	RES, CBN 1/6P 3.9K
521	R609	5232-681J16P	RES, CBN 1/6P 680
521	R610	5232-681J16P	RES, CBN 1/6P 680
522	R611	5232-122J16P	RES, CBN 1/6P 1.2K
522	R612	5232-122J16P	RES, CBN 1/6P 1.2K
523	R613	5232-223J16P	RES, CBN 1/6P 22K
523	R614	5232-223J16P	RES, CBN 1/6P 22K
519	R615	5232-221J16P	RES, CBN 1/6P 220
519	R616	5232-221J16P	RES, CBN 1/6P 220
524	R617	5232-101J16P	RES, CBN 1/6P 100
524	R618	5232-101J16P	RES, CBN 1/6P 100
525	R621	5232-751J16P	RES, CBN 1/6P 750
525	R622	5232-751J16P	RES, CBN 1/6P 750
526	R623	5232-393J16P	RES, CBN 1/6P 39K
526	R624	5232-393J16P	RES, CBN 1/6P 39K
527	R625	5232-684J16P	RES, CBN 1/6P 680K

Ser. No.	Ref. No.	Part No.	Description
527	R626	5232-684J16P	RES, CBN 1/6P 680K
528	R627	5232-334J16P	RES, CBN 1/6P 330K
528	R628	5232-334J16P	RES, CBN 1/6P 330K
529	R629	5232-102J16P	RES, CBN 1/6P 1K
529	R630	5232-102J16P	RES, CBN 1/6P 1K
530	R631	5232-104J16P	RES, CBN 1/6P 100K
530	R632	5232-104J16P	RES, CBN 1/6P 100K
519	R633	5232-221J16P	RES, CBN 1/6P 220
519	R634	5232-221J16P	RES, CBN 1/6P 220
531	R635	5232-222J16P	RES, CBN 1/6P 2.2K
531	R636	5232-222J16P	RES, CBN 1/6P 2.2K
538	△R637	5102-6804715	RES, FUSE 68
536	R638	5171-S010J271	RES, MTL 1 270
533	R639	5135-123522	RES, CBN 1/2P 12K
534	R640	5135-153522	RES, CBN 1/2P 15K
535	R641	5176-S010J391	RES, MTL 1/2 390
539	△R642	5102-1814715	RES, FUSE 180
550	R643	5232-822J16P	RES, CBN 1/6P 8.2K
550	R644	5232-822J16P	RES, CBN 1/6P 8.2K
551	R645	5232-1R0J16P	RES, CBN 1/6P 1
551B	R645	5232-100J16P	RES, CBN 1/6P 10
551	R646	5232-1R0J16P	RES, CBN 1/6P 1
551B	R646	5232-100J16P	RES, CBN 1/6P 10
552	R647	5232-121J16P	RES, CBN 1/6P 120
552	R648	5232-121J16P	RES, CBN 1/6P 120
553	R649	5232-220J16P	RES, CBN 1/6P 22
553	R650	5232-220J16P	RES, CBN 1/6P 22
554	R651	5232-560J16P	RES, CBN 1/6P 56
554B	R651	5232-470J16P	RES, CBN 1/6P 47
554	R652	5232-560J16P	RES, CBN 1/6P 56
554B	R652	5232-470J16P	RES, CBN 1/6P 47
555	R653	5232-272J16P	RES, CBN 1/6P 2.7K
555	R654	5232-272J16P	RES, CBN 1/6P 2.7K
552	R655	5232-121J16P	RES, CBN 1/6P 120
552	R656	5232-121J16P	RES, CBN 1/6P 120
556	R657	5232-681J16P	RES, CBN 1/6P 680
556	R658	5232-681J16P	RES, CBN 1/6P 680
557	R659	5232-562J16P	RES, CBN 1/6P 5.6K
557	R660	5232-562J16P	RES, CBN 1/6P 5.6K
559	R661	5135-152522	RES, CBN 1/2P 15K
055B	R671	5232-102J16P	RES, CBN 1/6P 1K
055B	R672	5232-102J16P	RES, CBN 1/6P 1K
055B	R673	5232-102J16P	RES, CBN 1/6P 1K
055B	R674	5232-102J16P	RES, CBN 1/6P 1K

TRANSISTORS

501	Q601	5613-2320L(F)	XISTOR, NPN R
501	Q602	5613-2320L(F)	XISTOR, NPN R
504	Q603	5611-999L(F)	XISTOR, PNP R
504	Q604	5611-999L(F)	XISTOR, PNP R
505	Q605	5611-1115(F)or(E)	XISTOR, PNP R
505	Q606	5611-1115(F)or(E)	XISTOR, PNP R
502	Q607	5613-2603(F)or(E)	XISTOR, NPN R
502	Q608	5613-2603(F)or(E)	XISTOR, NPN R
502	Q609	5613-2603(F)or(E)	XISTOR, NPN R
502	Q610	5613-2603(F)or(E)	XISTOR, NPN R
502	Q611	5613-2603(F)or(E)	XISTOR, NPN R
502	Q612	5613-2603(F)or(E)	XISTOR, NPN R
503	Q613	5613-3422(Y)or(O)	XISTOR, NPN R
506	Q614	5611-1359(Y)or(O)	XISTOR, PNP R
542	Q615	5613-2855(E)	XISTOR, NPN R
542	Q616	5613-2855(E)	XISTOR, NPN R
542	Q617	5613-2855(E)	XISTOR, NPN R
542	Q618	5613-2855(E)	XISTOR, NPN R
543	Q619	5613-2603(F)or(E)	XISTOR, NPN R

DIODES

507	D601	5635-HZ15-2L	DIODE, ZENER
507	D602	5635-HZ15-2L	DIODE, ZENER
544	D603	5635-HZ12B2L	DIODE, ZENER

COILS

062B	L601	5597-45502	CORE, BEADS
062B	L602	5597-45502	CORE, BEADS
062B	L603	5597-45502	CORE, BEADS
062B	L604	5597-45502	CORE, BEADS

Ser. No.	Ref. No.	Part No.	Description
MISCELLANEOUS			
752	LCN601	4163-0130020	CONNECTOR W/W
705	CN602	4443-047175	CONNECTOR
706	CN603	4443-067175	CONNECTOR
771	JL601	4242-R0203800	JUMPER LEAD
733	SW7	4431-S0302102	SWITCH, PUSH

PCB-12 Q807 P.C. BOARD**CAPACITORS**

839	C810	5361-122KB	CAP, CER 1200p
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TRANSISTORS

834	Q807	5613-3422(Y)or(O)	XISTOR, NPN R
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CHASSIS MISCELLANEOUS

052B	△CO1	4443-712	CONNECTOR
685	△F1	5732-402031	FUSE
685B	△F1	5732-202052	FUSE
685D	△F1	5732-502036	FUSE
683	△T1	5584-S11	XFORMER, POWER
683B	△T1	5584-S12	XFORMER, POWER
683D	△T1	5584-S13	XFORMER, POWER
684		4472-0131	HOLDER, FUSE
734	△SW2	4421-0227230	SWITCH, SLIDE
744	△SO1	4474-227	SOCKET
745	△P1	4442-14	CORD W/PLUG
745B	△P1	4161-7256	CORD W/PLUG
745D	△P1	4161-71133	CORD W/PLUG
650	LUG2	4211-4	LUG
746		4442-14	PIN PLUG
051B	△SW101	4411-102729	ROTARY SWITCH

PACKAGE PARTS LIST

021B	1756-06303	LABEL
021D	1756-03113	LABEL
022B	1756-03108	LABEL
023D	1241-PB	POLYETHYLENE BAG
027B	1119-026	ATTACH SHEET
106	1111-J90915	OWNER GUIDE
107	1111-J30269	OWNER GUIDE
107B	1111-J30270	OWNER GUIDE
107D	1111-J2039	OWNER GUIDE
108	1113-717004	OWNER CARD
108D	1113-OC	OWNER CARD
109	1119-047	ATTACH SHEET
109D	1119-GC	ATTACH SHEET
110	1119-0137	ATTACH SHEET
121	1241-C12732	POLYETHYLENE BAG
122	1241-C1491	POLYETHYLENE BAG
124	1221-867144	CARTON BOX
125	1222-7216	CUSHION
127	1223-11729	SOFT SHEET

ABBREVIATIONS IN PARTS LIST**CAPACITORS**

CAP, MINI ELE	: Electrolytic
CAP, CER	: Ceramic
CAP, PPP	: Polypropylene
CAP, MYL	: Mylar
CAP, MCA	: Mica
CAP, MINI BP	: Bipolar
CAP, ELE BP	: Electrolytic Bipolar
CAP, STY	: Polystyrene Film
CAP, SPE	: Special
CAP, TAN	: Tantalum

RESISTORS

RES, CBN 1/6P	: Carbon 1/6W
RES, FUSE	: Fuse
RES, CEM 5P	: Cement 5W
RES, MTL 1P	: Metal 1W
2.2K	: 2.2kΩ
220	: 220Ω

TRANSISTORS

XISTOR	: Transistor
FET	: Field Effect Transistor

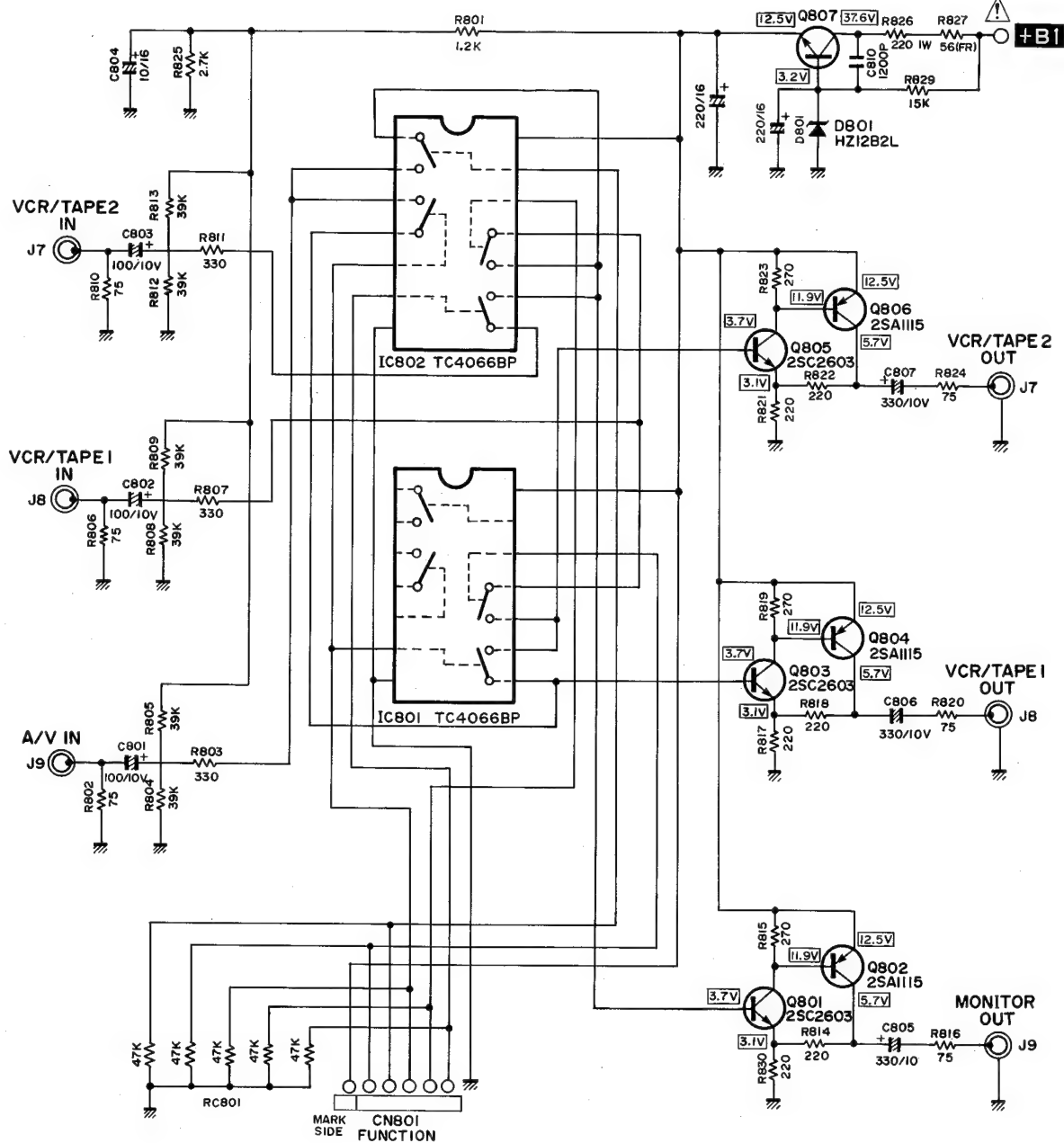
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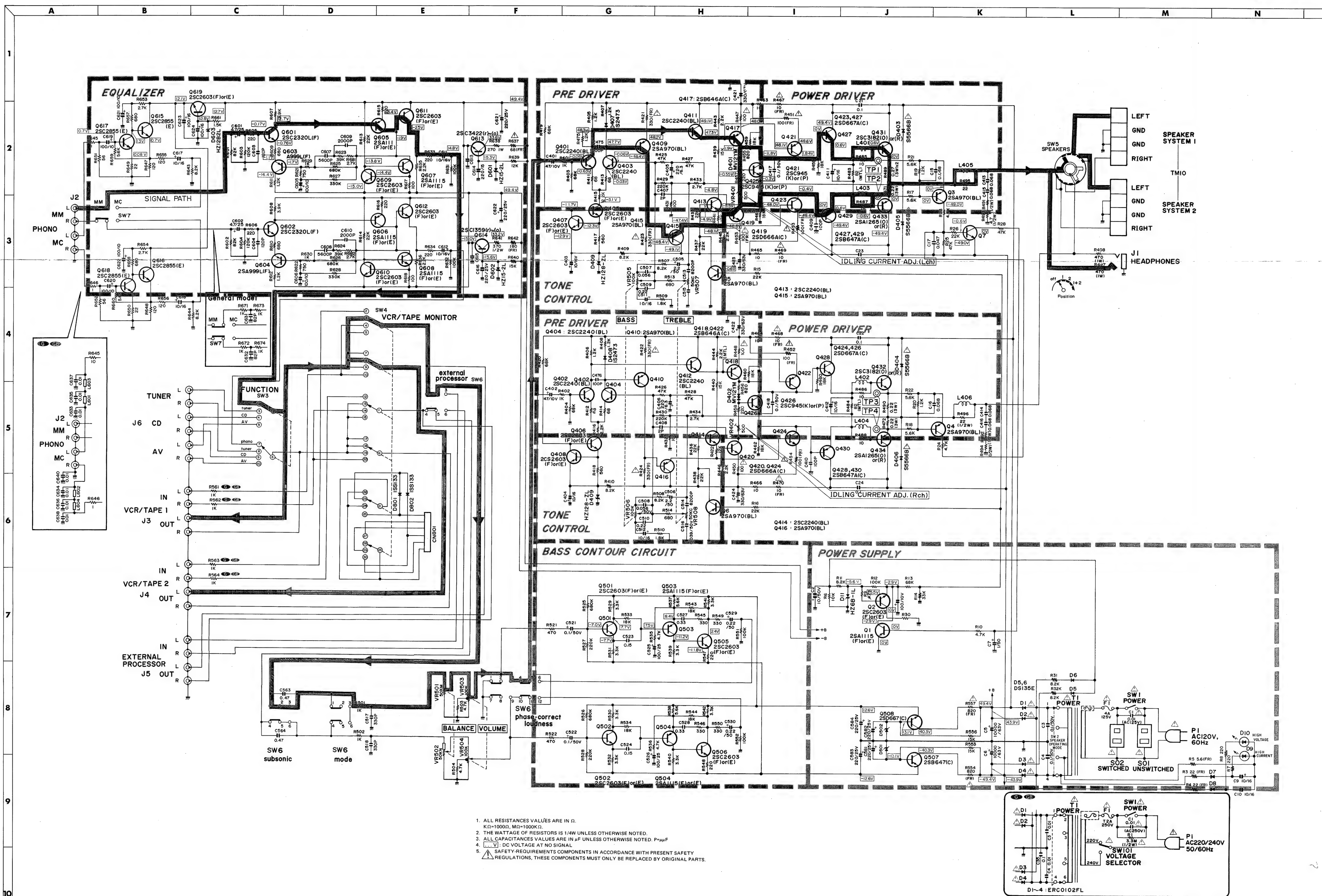
RES, V CBN	: Variable Carbon Resistor
RES, SEMI FIX	: Semi-fixed Resistor

NOTE

SAFETY RELATED COMPONENT. USE ONLY EXACT REPLACEMENT PART AS SPECIFIED.

SCHEMATIC DIAGRAM





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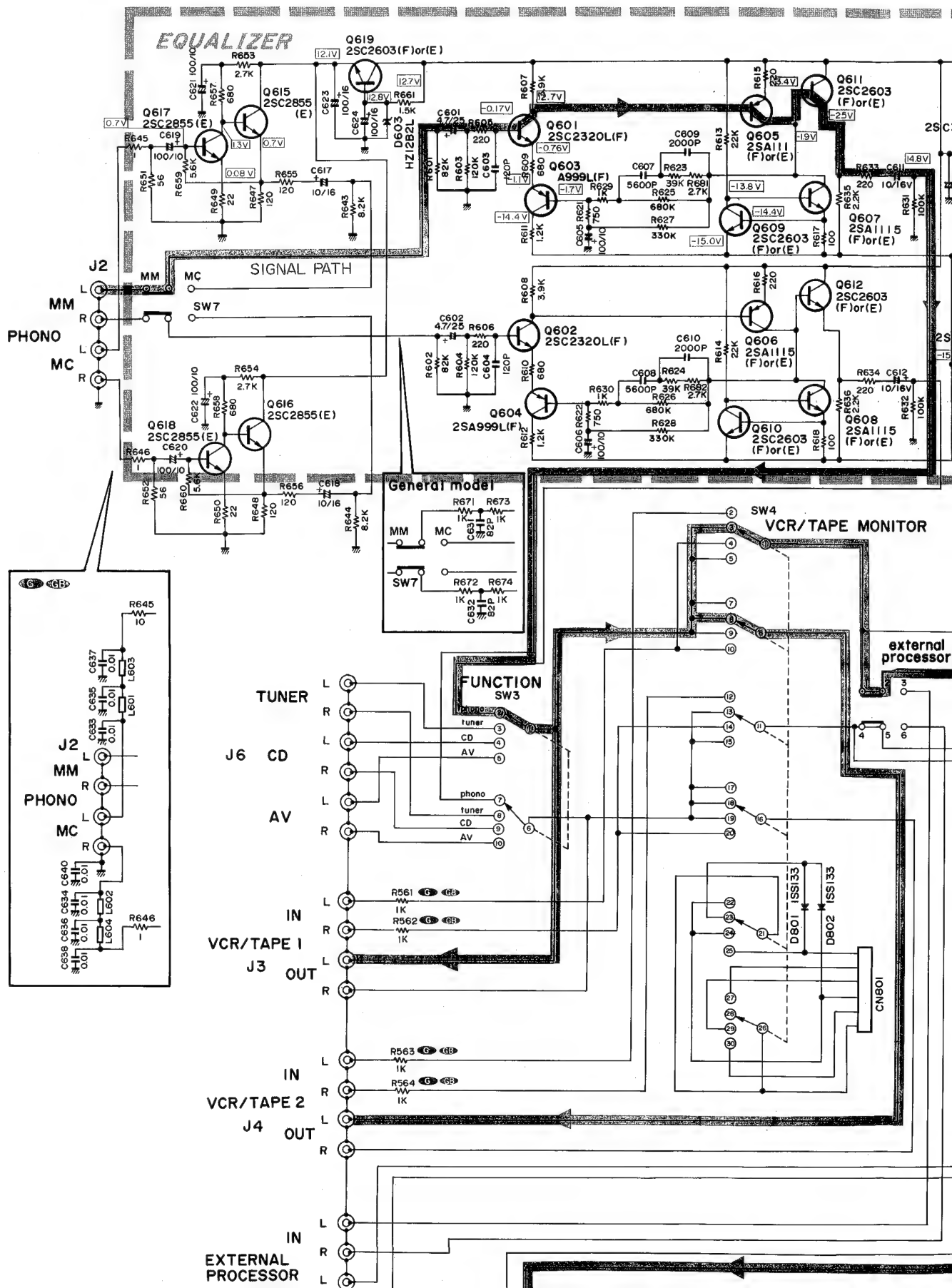
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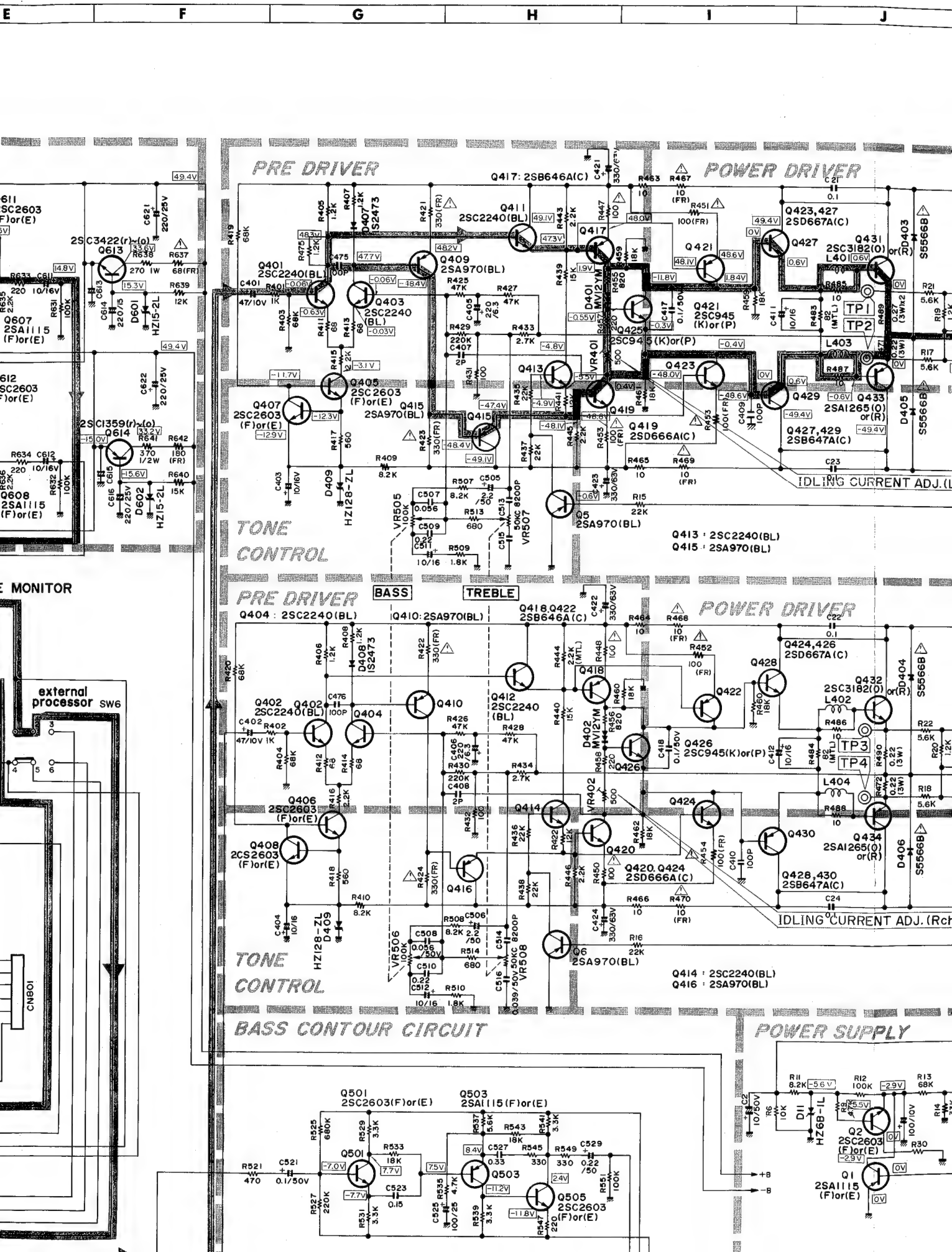
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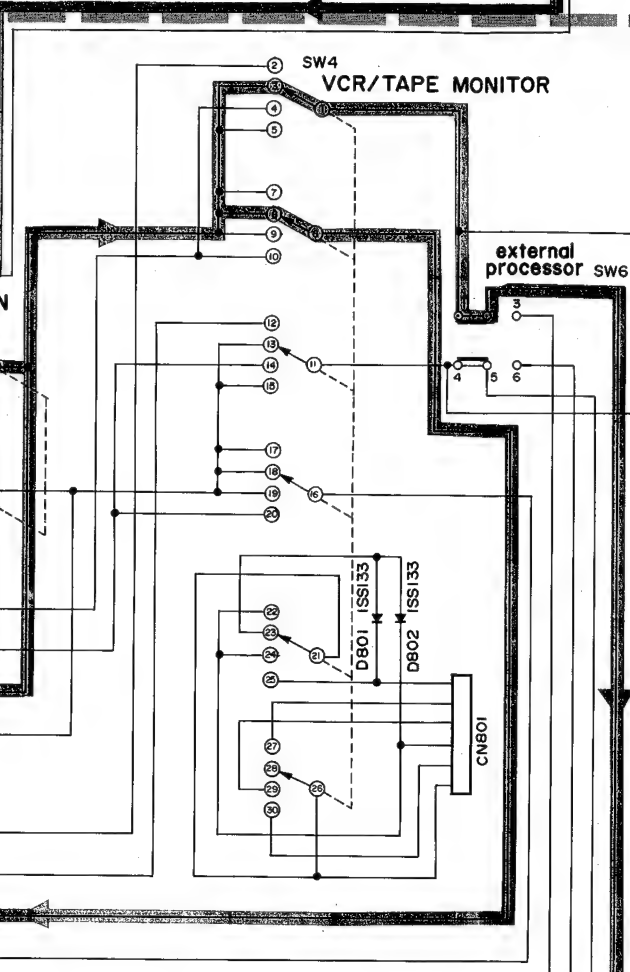
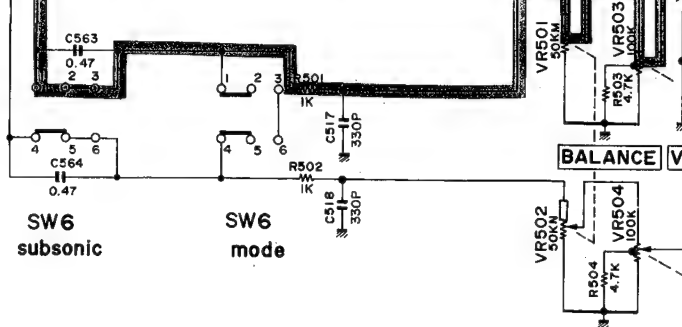
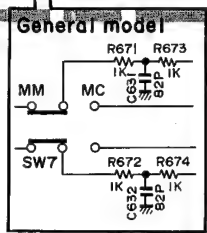
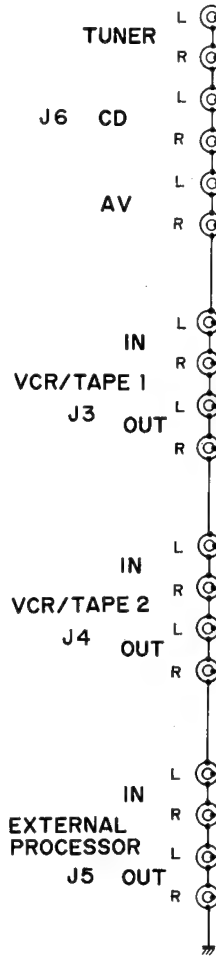
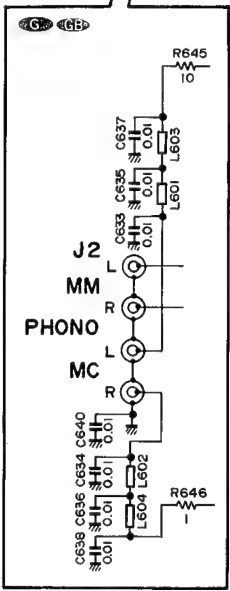
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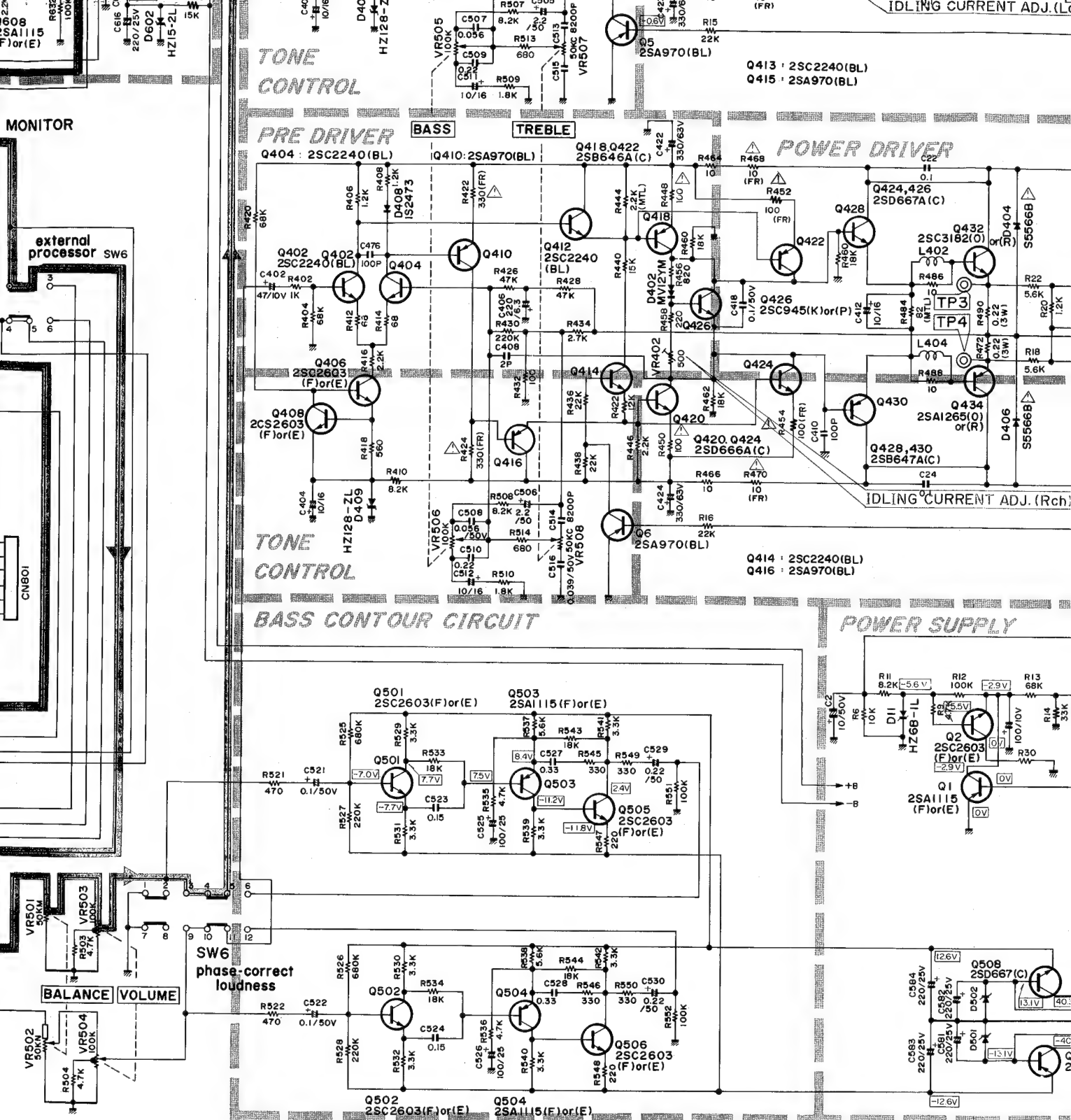





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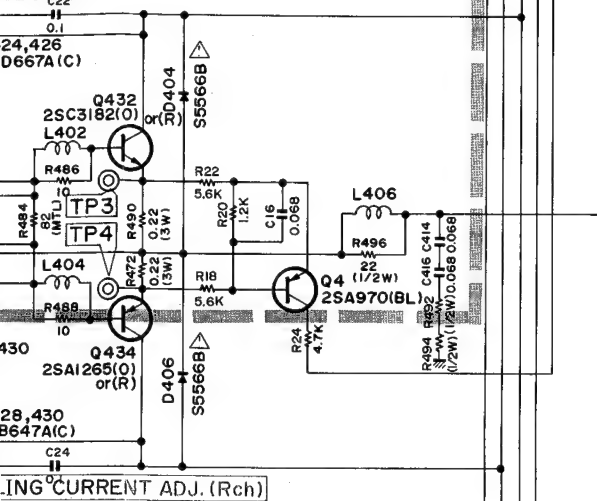
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- 2. T
- 3. A
- 4. I
- 5. L



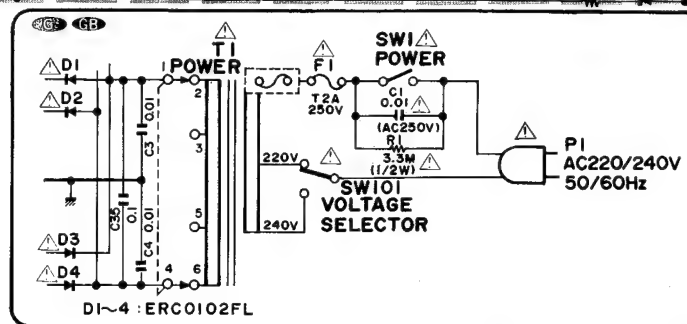
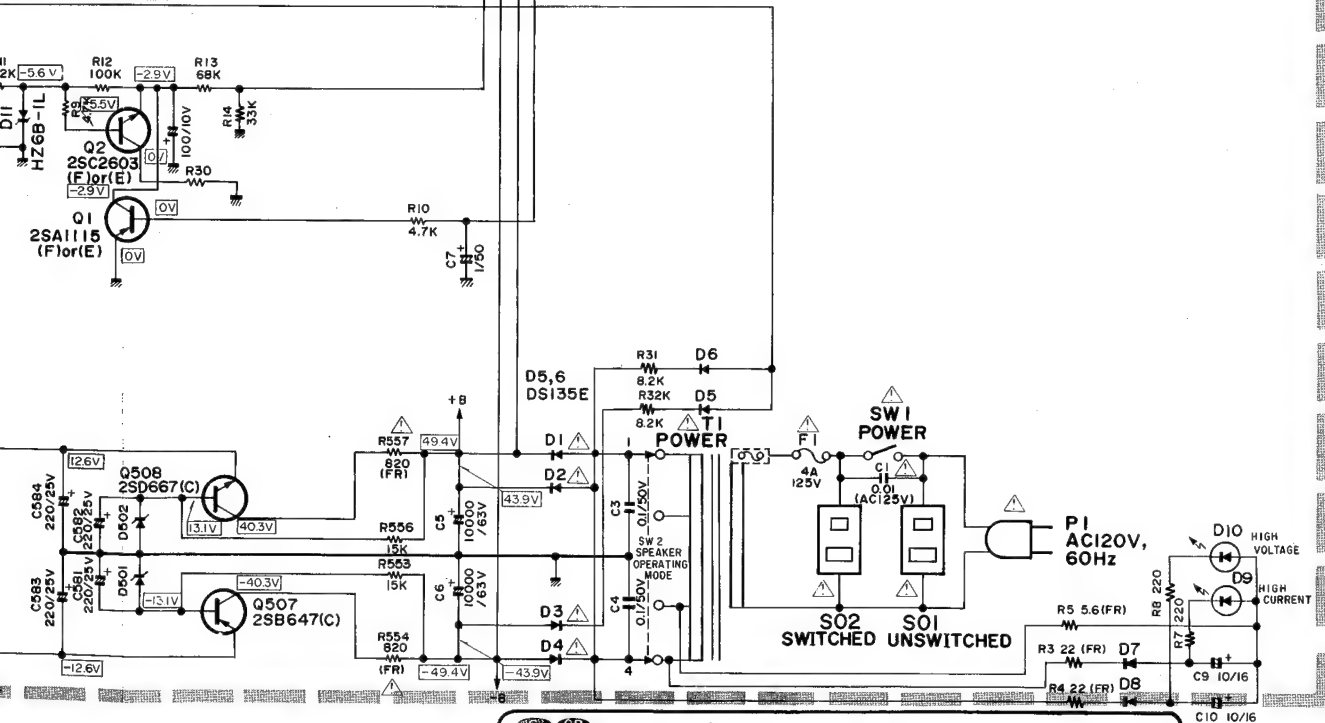
1. ALL RESISTANCES VALUES ARE IN Ω .
 $K\Omega=1000\Omega$, $M\Omega=1000K\Omega$.
2. THE WATTAGE OF RESISTORS IS 1/4W UNLESS OTHERWISE NOTED.
3. ALL CAPACITANCES VALUES ARE IN μF UNLESS OTHERWISE NOTED. $P=\mu mF$
4. V: DC VOLTAGE AT NO SIGNAL
5.  SAFETY-REQUIREMENTS COMPONENTS IN ACCORDANCE WITH PRESENT SAFETY REGULATIONS, THESE COMPONENTS MUST ONLY BE REPLACED BY ORIGINAL PARTS.

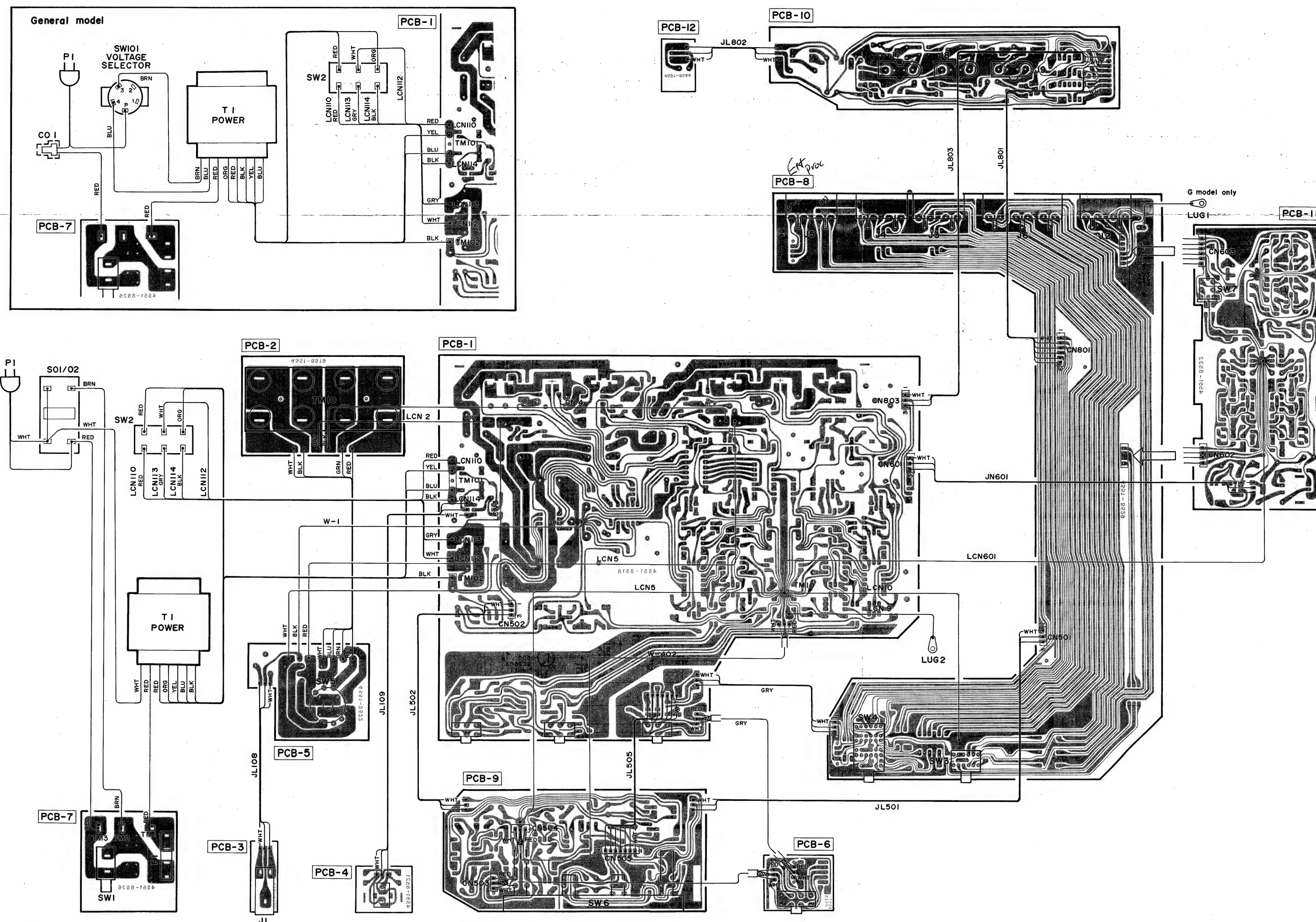


RIVER



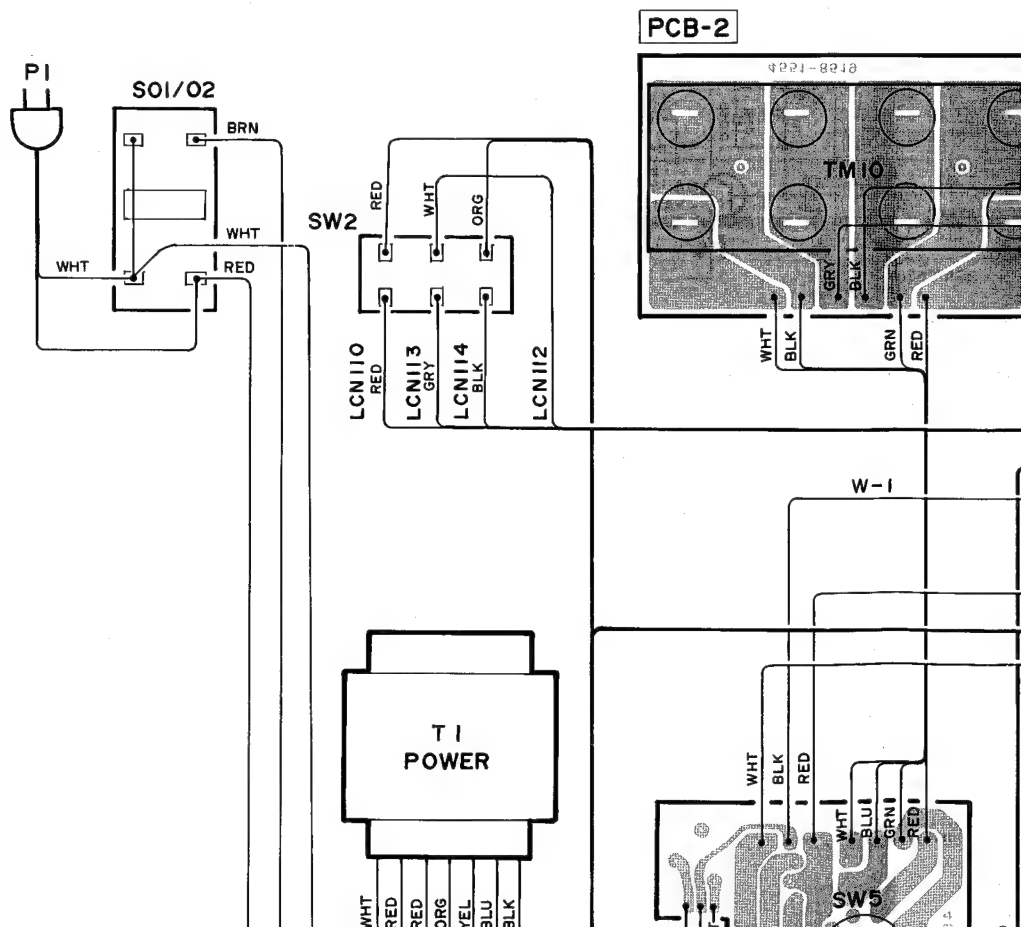
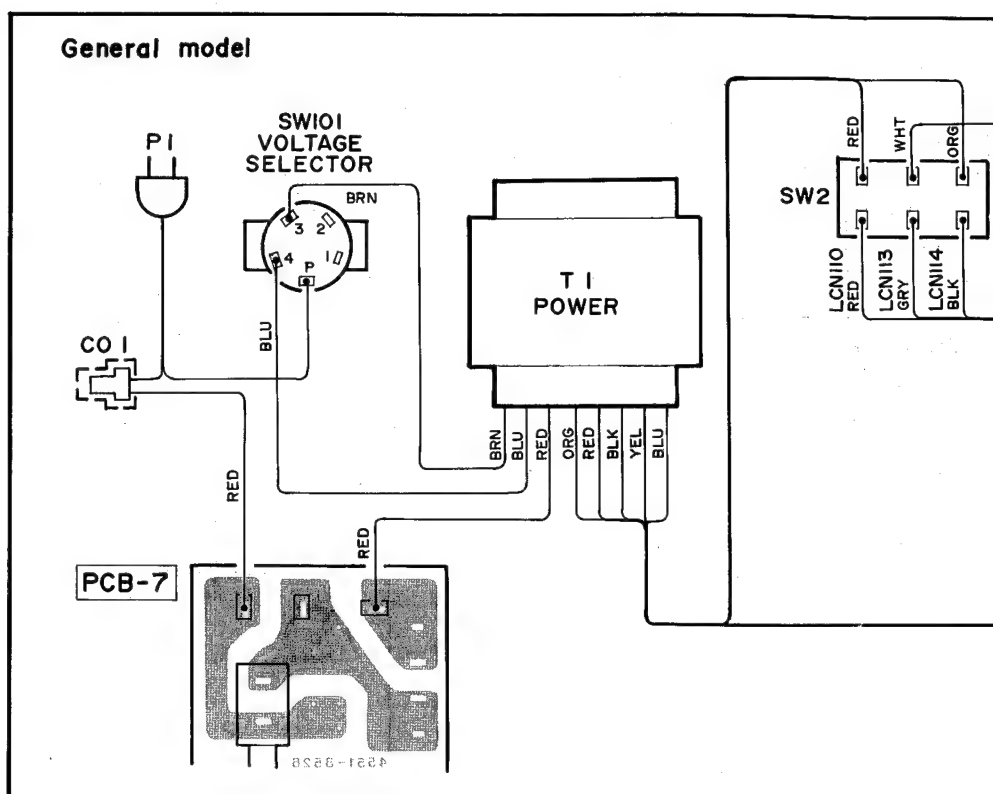
ER SUPPLY





- **WIRE COLOR ABBREVIATIONS**
- | | |
|--------------|--------------|
| RED : Red | YEL : Yellow |
| ORG : Orange | PUP : Purple |
| BLU : Blue | PIK : Pink |
| WHT : White | GRY : Gray |
| GRN : Green | BRN : Brown |
| BLK : Black | |

WIRING DIAGRAM



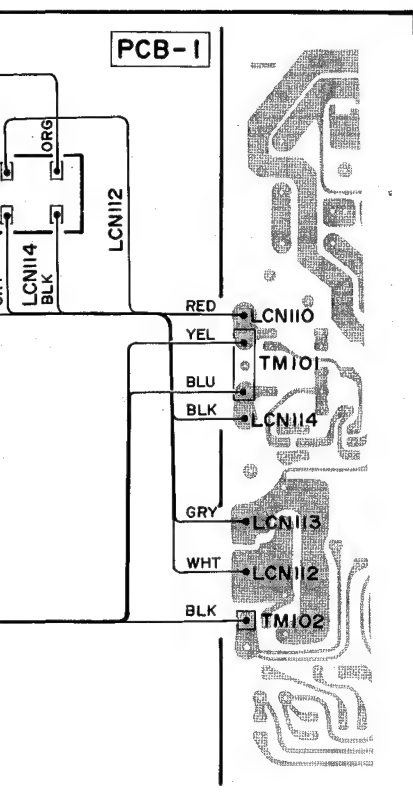
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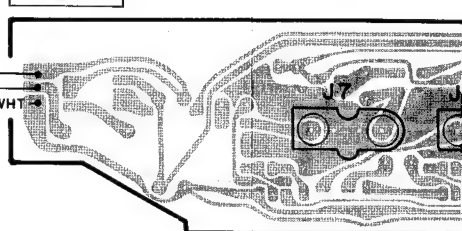


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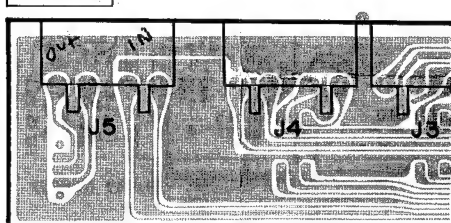


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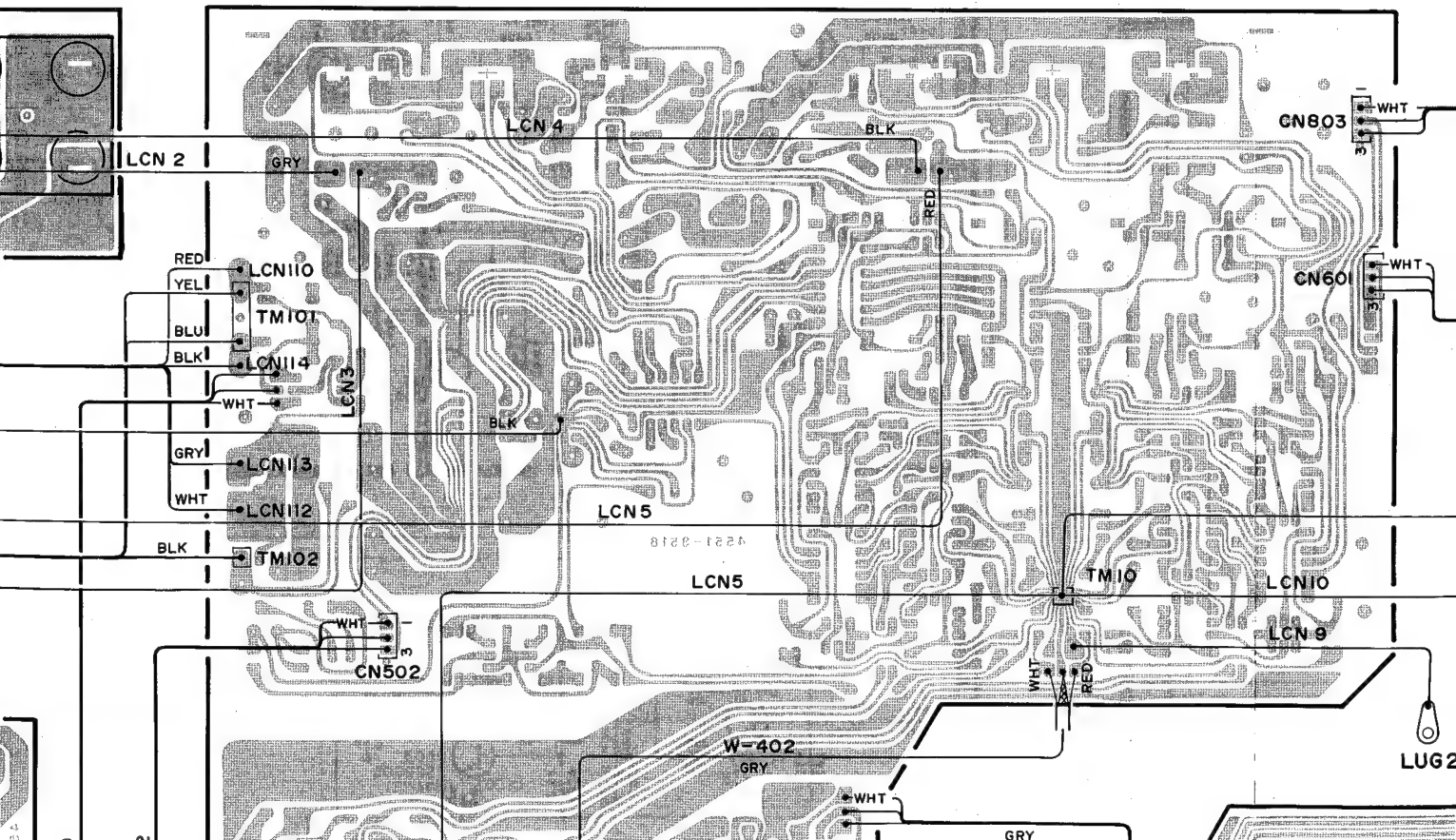
PCB-10



PCB-8



PCB-1



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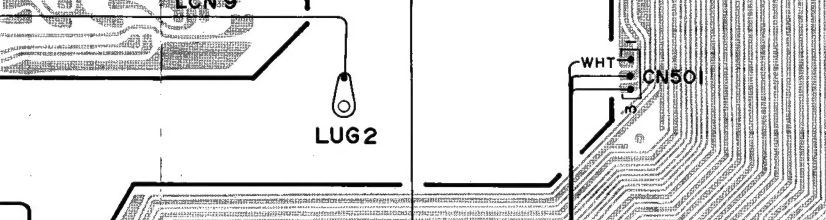
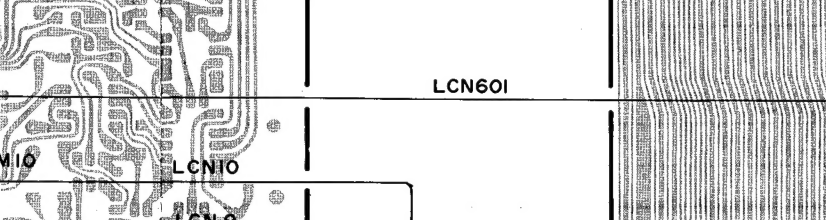
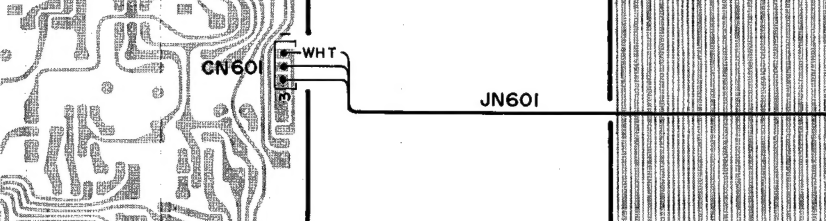
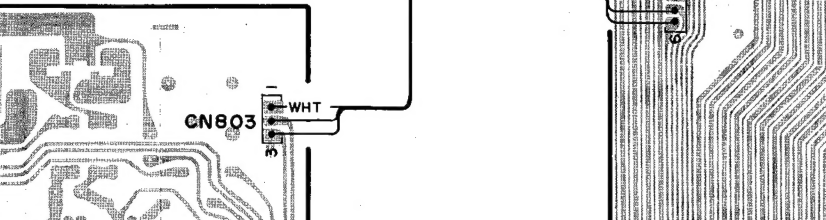
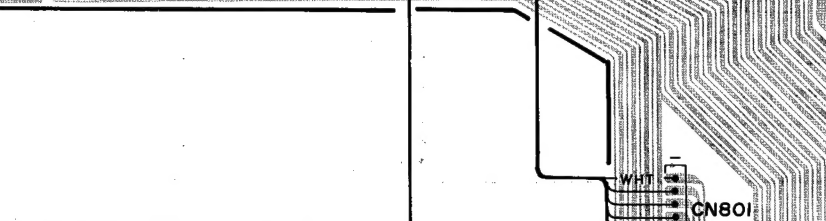
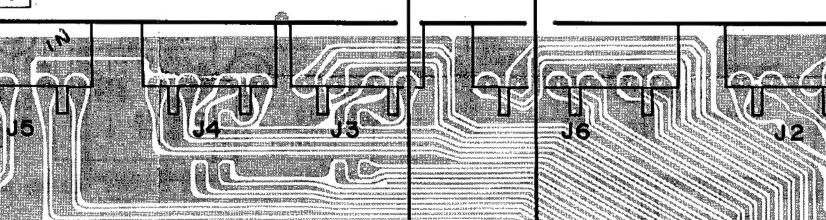
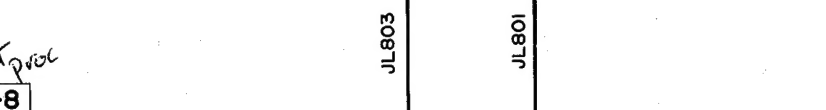
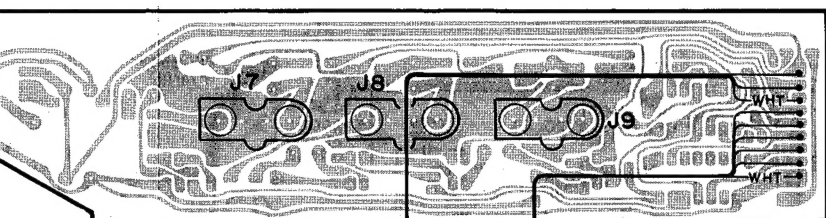
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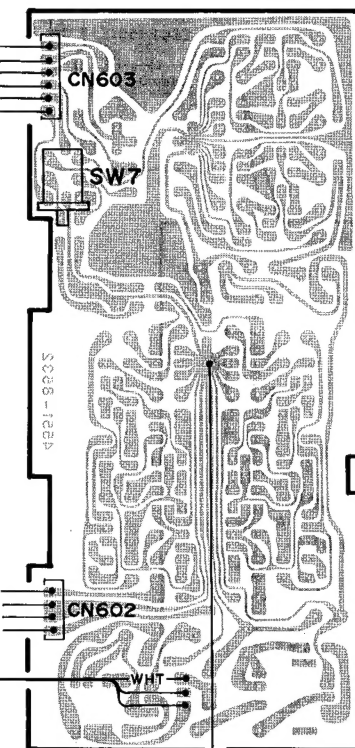
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G model only

LUG1

PCB-11



JL803

JL801

JN601

LCN601

CN803

CN601

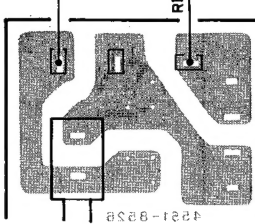
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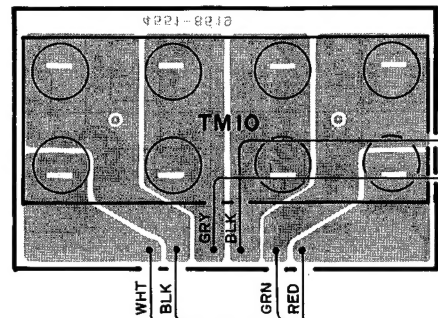
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CN501

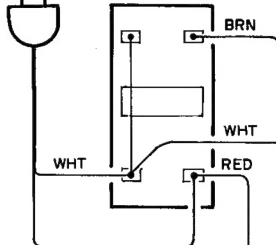
PCB-7



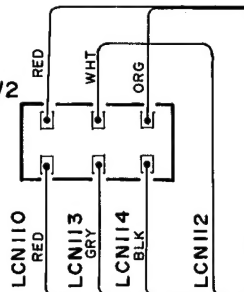
PCB-2



S01/02



SW2



LCN110

LCN113

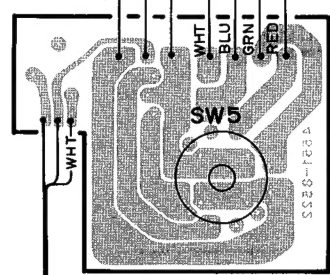
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LCN112

T1
POWER

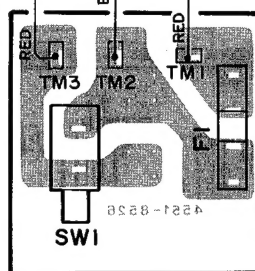
WHT RED RED ORG YEL BLU BLK

W-1



PCB-5

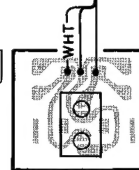
PCB-7



PCB-3



PCB-4



- WIRE COLOR ABBREVIATIONS
- RED : Red YEL : Yellow
- ORG : Orange PUP : Purple
- BLU : Blue PIK : Pink
- WHT : White GRY : Gray
- GRN : Green BRN : Brown
- BLK : Black

